MICRO COMPONENT SYSTEM MCR-E810
DVD PLAYER
DVD-E810
SERVICE MANUAL

The MCR-E810 is composed of the DVD-E810, RX-E810 and NX-E800.
This service manual is for the DVD-E810.
For service manual of the RX-E810 and NX-E800, please refer to the following publication number:

RX-E810/RX-E410/NX-E800 101019

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.
It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

DVD-E810

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This Service Manual uses recycled paper.

101017

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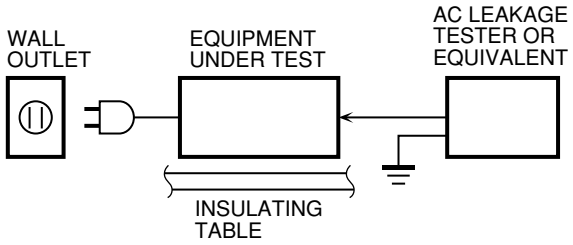
YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan
'06.08

■ TO SERVICE PERSONNEL

1. Critical Components Information
   Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Models Only)
   When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohms shunted by 0.15μF.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

WARNING: Laser Safety

This product contains a laser beam component. This component may emit invisible, as well as visible radiation, which may cause eye damage. To protect your eyes and skin from laser radiation, the following precautions must be used during servicing of the unit.

1) When testing and/or repairing any component within the product, keep your eyes and skin more than 30 cm away from the laser pick-up unit at all times. Do not stare at the laser beam at any time.

2) Do not attempt to readjust, disassemble or repair the laser pick-up, unless noted elsewhere in this manual.

3) CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Emitting conditions:

1) When the Top Cover is removed, and the STANDBY/ON SW is turned to the "ON" position, the laser component will emit a beam for several seconds to detect if a disc is present. During this time (5-10 sec.) the laser may radiate through the lens of the laser pick-up unit. Do not attempt any servicing during this period!
   If no disc is detected, the laser will stop emitting the beam. When a disc is loaded, you will not be exposed to any laser emissions.

2) The laser power level can be adjusted with the VR on the pick-up PWB, however, this level has been set by the factory prior to shipping from the factory. Do not adjust this laser level control unless instruction is provided elsewhere in this manual. Adjustment of this control can increase the laser emission level from the device.

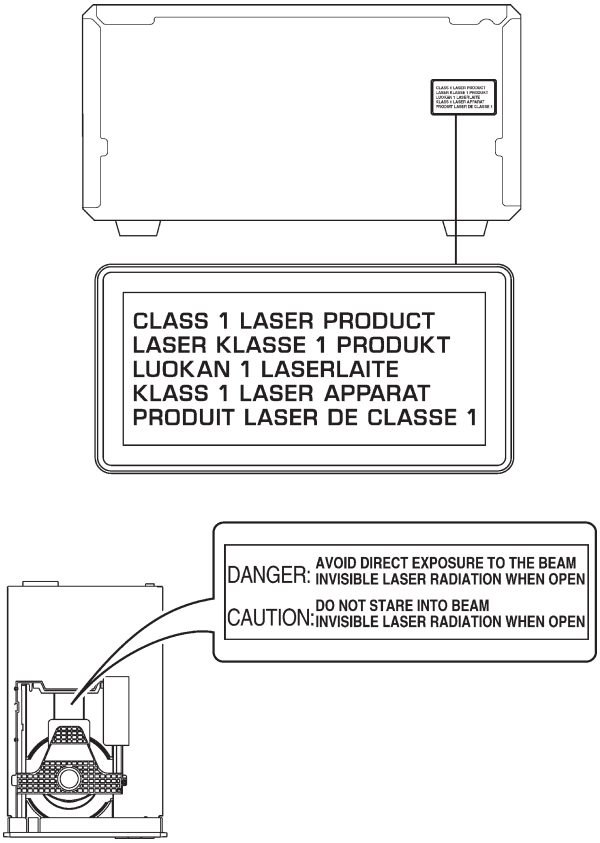
Laser Diode Properties

Type:	Semiconductor laser GaAlAs
Wave length:	650 nm (DVD)
	780 nm (VCD/CD)
Output power:	7 mW (DVD)
	10 mW (VCD/CD)
Beam divergence:	60 degree

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD.
BETRAKTA EJ STRÅLEN.

WARNING



CAUTION VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARNING SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
VARO! AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VORSICHT SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETSEN.
DANGER VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ATTENTION RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.

Warning for power supply

The primary side of the power supply carries live mains voltage when the player is connected to the mains even when the player is switched off !

This primary area is not shielded so it is possible to touch copper tracks and/or components when servicing the player. Service personnel have to take precautions to prevent touching this area or components in this area.

Note:

The screws on the DVD mechanism may never be touched, removed or re-adjusted.

Handle the DVD mechanism with care when the unit has to be exchanged!

The DVD mechanism is very sensitive for dropping or giving shocks.

■ PREVENTION OF ELECTROSTATIC DISCHARGE

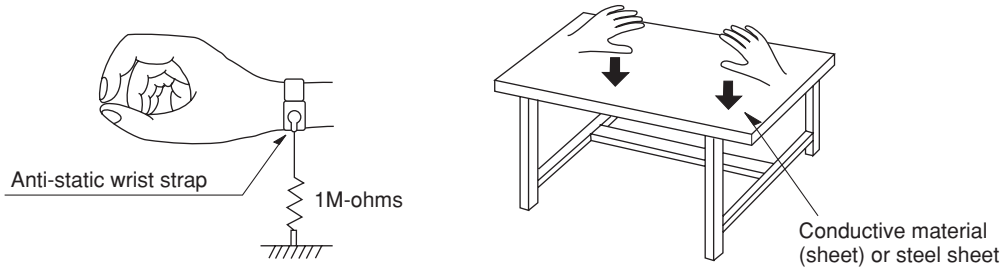
The laser diode in the DVD mechanism may be damaged due to static electricity from clothes or the human body. Use caution to prevent electrostatic damage when servicing or handling the DVD-mechanism.

1. Grounding for electrostatic damage prevention

Some devices, such as the DVD player, use an optical pickup (laser diode) that will be damaged by static electricity in the working environment. Only attempt service after ensuring that all grounding procedures have been completed.

1. Worktable grounding
   Put a grounded conductive material (sheet) or iron sheet on the area where the optical pickup is placed.

2. Human body grounding
   Use an anti-static wrist strap to discharge the static electricity from your body.



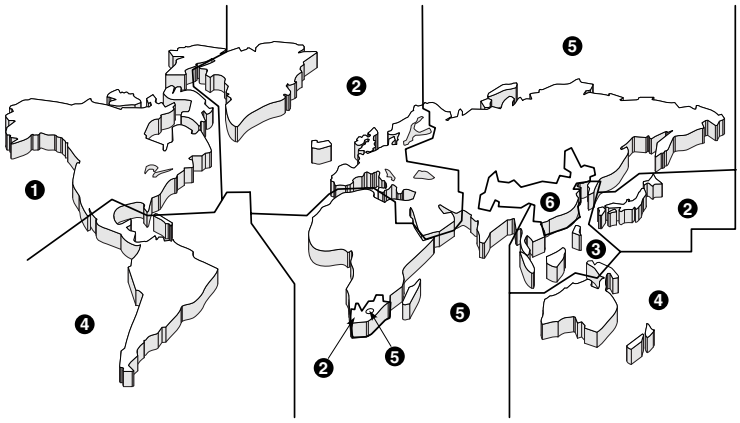
2. Handling Precautions for DVD mechanism

1. Handle the DVD mechanism gently, as it is an extremely high-precision assembly.
2. The flexible cable lines may break if an excessive force is applied to it. Use caution when handling the cable.
3. The semi-fixed resistor for laser power adjustment should not be adjusted. Do not turn the resistor.

■ LOCALE MANAGEMENT INFORMATION

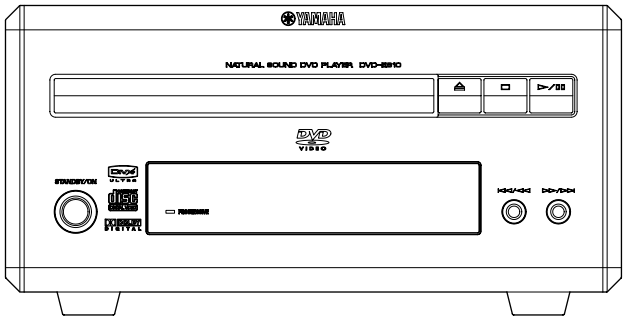
Locale Management Information : This DVD player is designed and manufactured to respond to the Locale Management Information that is recorded on a DVD disc. If the Locale number described on the DVD disc does not correspond to the Locale number of this DVD player, this DVD player cannot play this disc.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.



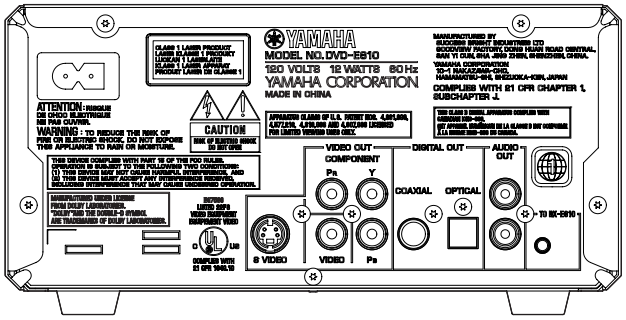
■ FRONT PANEL

DVD-E810 (U, C, T, K, A, B, G, L, V models)

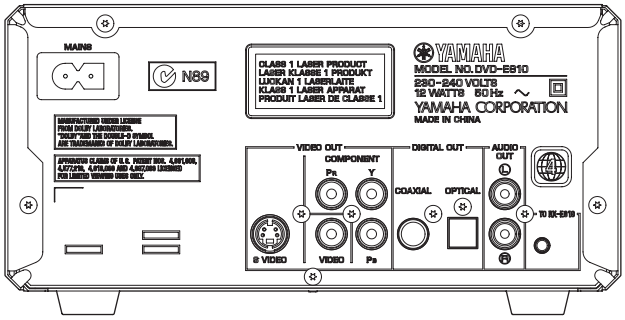


■ REAR PANELS

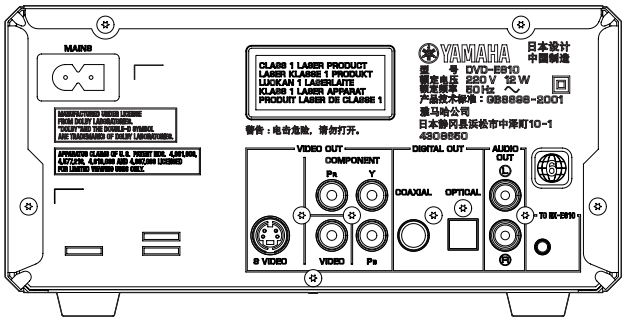
DVD-E810 (U, C models)



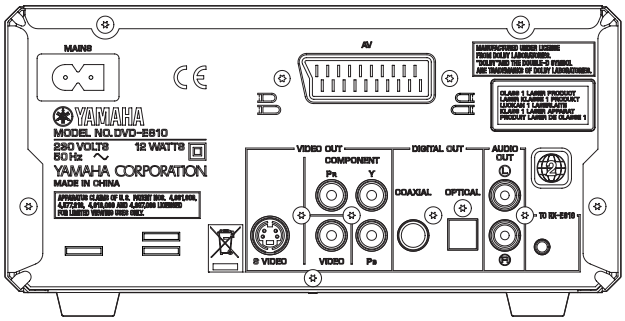
DVD-E810 (A model)



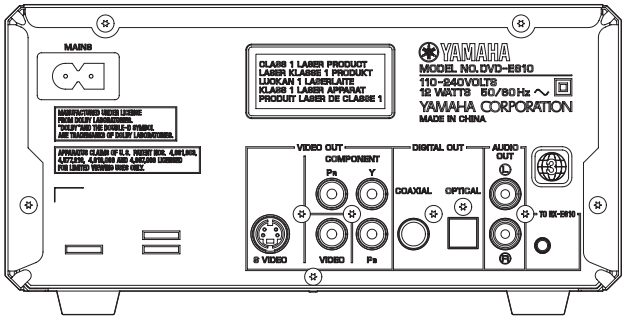
DVD-E810 (T model)



DVD-E810 (B, G models)



DVD-E810 (K, L, V models)



■ SPECIFICATIONS

PLAYBACK SYSTEM

DVD Video, VR (Video Recording) format (DVD-RW)
Video CD & SVCD
CD
Picture CD
CD-R, CD-RW
DVD+R, DVD+RW, DVD+R DL
DVD-R, DVD-RW, DVD-R DL

VIDEO PERFORMANCE

Video (CVBS) output	1 Vpp into 75 ohms
S-Video output	Y: 1 Vpp into 75 ohms
	C: 305 mVpp into 75 ohms
RGB (Scart) output	700 mVpp into 75 ohms
Component video output	Y: 1 Vpp into 75 ohms
	P_B/C_B P_R/C_R: 700 mVpp into 75 ohms

AUDIO FORMAT

Digital	Dolby Digital/DTS/MPGE	
		Compressed Digital
	PCM	16, 20, 24 bits
		fs, 44.1, 48, 96 kHz
	MP3 (ISO 9660)	96, 128, 256, 320 kbps
		fs, 32, 44.1, 48 kHz
	WMA	64 kbps to 192 kbps
		fs, 44.1, 48 kHz
Analog sound		Stereo

AUDIO PERFORMANCE

DA converter	24 bits/192 kHz	
Signal to noise (1 kHz)	105 dB	
Dynamic range (1 kHz)	97 dB	
DVD	fs 96 kHz	2 Hz to 44 kHz
	fs 48 kHz	2 Hz to 22 kHz
SVCD	fs 48 kHz	2 Hz to 22 kHz
	fs 44.1 kHz	2 Hz to 20 kHz
CD/VCD	fs 44.1 kHz	2 Hz to 20 kHz
Distortion and noise (1kHz)	0.0035 %	

TV STANDARD	**(PAL/50 Hz)**	**(NTSC/60 Hz)**
Number of lines	625	525
Playback	Multistandard	(PAL/NTSC)

CONNECTIONS

SCART (B, G models)	Euroconnector
Y output	Cinch (green)
P_B/C_B output	Cinch (blue)
P_R/C_R output	Cinch (red)
S-Video output	Mini DIN, 4 pins
Video output	Cinch
Audio output (L+R)	Cinch
Digital output	1 coaxial, 1 optical
	IEC60958 for CDDA/LPCM
	IEC61937 for MPEG 2, Dolby Digital

GENERAL

Dimensions (W x H x D)	215 x 108 x 330 mm
	(8-7/16" x 4-1/4" x 13")
Weight	2.3 Kg (5 lbs. 1 oz)
Finish	Gold color (T, A models)
	Black color (G model)
	Silver color
	(U, K, B, G, L, V models)
Power supply	AC 120 V, 60 Hz (U, C models)
	AC 220 V, 50 Hz (T model)
	AC 110-240 V, 50/60 Hz
	(K, L, V models)
	AC 240 V, 50 Hz (A model)
	AC 230 V, 50 Hz (B, G models)
Power consumption	Approx. 12 W
Standby power consumption	< 1.0 W

ACCESSORIES

Power cable (1.8 m) x 1 (U, C models)
Power cable (1.5 m) x 1 (T, A, B, G models)
Power cable (1.5 m) x 3 (K, L, V models)
Audio pin cable (1.5 m) x 1
Video pin cable (1.5 m) x 1

**** Specifications are subject to change without prior notice.***

U ..... USA model
T ..... Chinese model
A ..... Australian model
G ..... European model
V ..... Taiwan model
C ..... Canadian model
K ..... Korean model
B ..... British model
L ..... Singapore model

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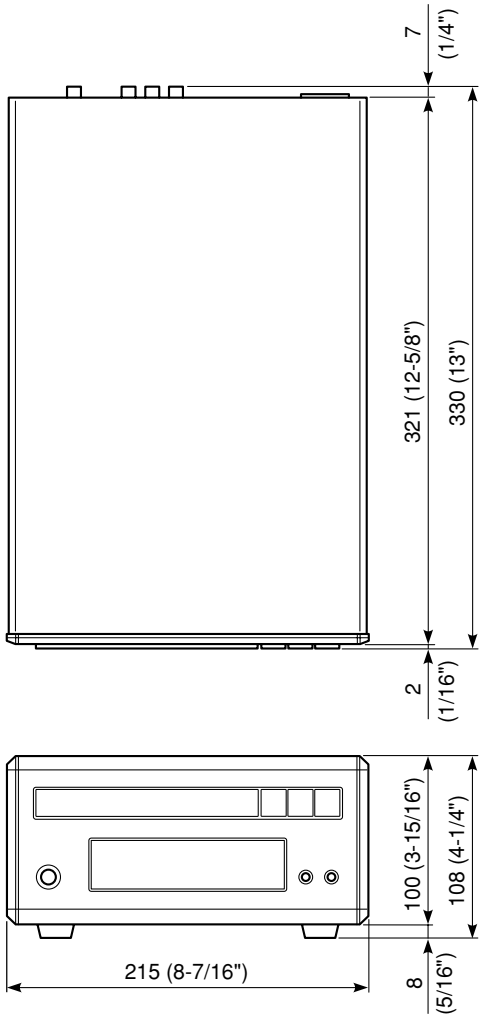
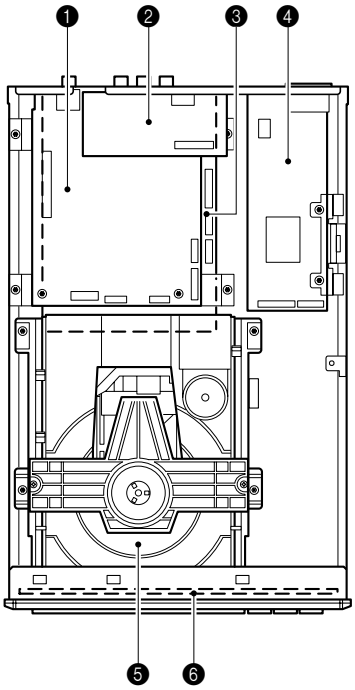
- **DIMENSIONS**



Unit: mm (inch)

■ INTERNAL VIEW



❶ MONO P.C.B.
❷ SCART P.C.B. (B, G models)
❸ AV P.C.B.
❹ Power Supply Unit
❺ DVD Mechanism
❻ FRONT P.C.B.

■ REPAIR NOTES

None of the components of the following unit can be supplied separately.
Each unit must be replaced as a whole in case of a failure.

- DVD Mechanism
- MONO P.C.B.
- AV P.C.B.
- FRONT P.C.B.
- SCART P.C.B. (B, G models)
- Power Supply Unit

■ TRADE MODE

This unit provides TRADE mode which prevents the tray from opening even when the “OPEN/CLOSE” key is pressed.

- **Activating TRADE mode**
  The power to the main unit should be turned on before activating the TRADE mode.

1. Press the “OPEN/CLOSE” key to open the tray. (Fig. 1)
2. Press the “DVD/CD”, “2”, “5” and “9” keys on the remote control in that order. (Fig. 2)
3. “TRA ON” is displayed and TRADE mode is activated. (Fig. 3)

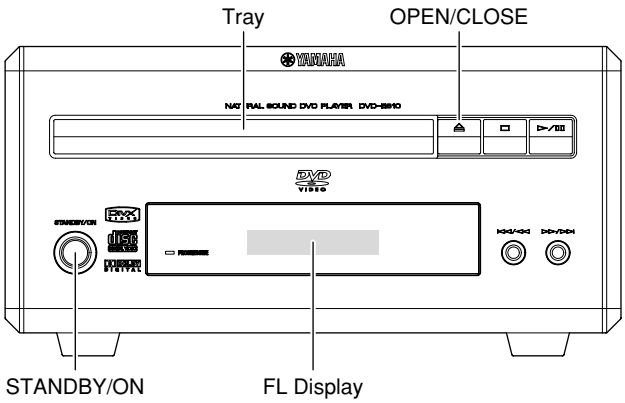


Fig. 1

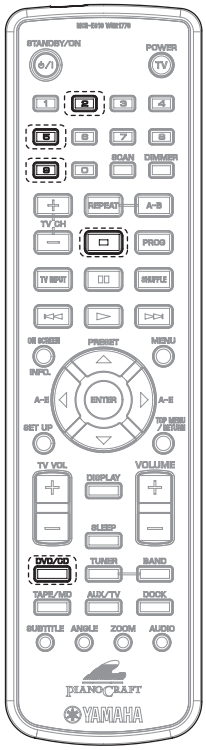
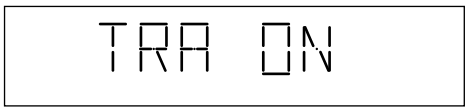


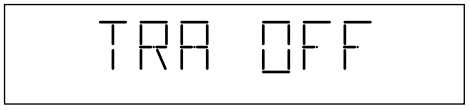
Fig. 2

TRADE mode display



Enter

Fig. 3



Cancel

Fig. 4

* After activating TRADE mode, it is not possible to operate keys of the main unit as usual except the following key.
STANDBY/ON (Turn on the power only)
But operation with the remote control is available as usual.

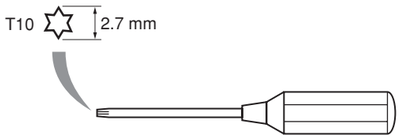
- **Canceling TRADE mode**
  The power to the main unit should be turned on before canceling TRADE mode.

1. Press and hold the “STOP” key on the remote control. (Fig. 2)
   The tray opens after about 2 second.
2. Press the “DVD/CD”, “2”, “5” and “9” keys on the remote control in that order. (Fig. 2)
3. “TRA OFF” is displayed and TRADE mode is cancelled. (Fig. 4)

■ DISASSEMBLY PROCEDURES

See REPLACEMENT PARTS LIST for item numbers.

When disassembling, use the special screw driver with tip shape in figure.



Top Cabinet [240]
→ Remove 4 screws. [250] (4 on side)
→ Remove 4 screws. [251] (4 on rear side)
→ Lift top cabinet from rear side to remove.

Mounting ↕ **Dismounting**

Front Panel Ass'y [101]
→ Remove CN3 and 1800.
→ Open tray. (Fig. 2)
→ Unlock tray cover and close tray.
→ Remove 2 screws. (Front panel ass'y to side frame)
→ Remove 2 screws. [251] (Front panel ass'y to bottom frame)
→ Unlock front panel ass'y from frame by releasing successively 2 snaps. (2 on the side)
→ Remove front panel ass'y.

FRONT P.C.B. [1001]
→ Remove 5 screws. [260] (P.C.B. to front panel ass'y)
→ Remove FRONT P.C.B..

SCART P.C.B. [1003] (B, G models)
→ Remove 1302.
→ Remove 2 screws. [260] (P.C.B. to rear panel)
→ Remove SCART P.C.B..

MONO P.C.B. [1004]
→ Solder the lauds of the optical pick up. (Fig. 3)
→ Remove 1101–1103, 1201, 1206 and 1207.
→ Remove 3 screws. [251] (P.C.B. to bracket A/B)
→ Remove MONO P.C.B..

DVD Mechanism [1005]
→ Solder the lauds of the optical pick up. (Fig. 3)
→ Open tray. (Fig. 2)
→ Unlock tray cover and close tray.
→ Remove 1101–1103.
→ Remove 4 screws. [52] (DVD mechanism to P.C.B. support)
→ Remove DVD mechanism.

AV P.C.B. [1002]
→ Remove 4 screws. [251] (Bracket A/B to bottom frame)
→ Remove bracket A/B.
→ Remove 1800 and 1812.
→ Remove 2 screws. [251] (P.C.B. to bottom frame)
→ Remove 5 screws. [260] (P.C.B. to rear panel)
→ Remove AV P.C.B..

Power Supply Unit [1006]
→ Remove CN101, CN1 and CN3.
→ Remove 2 screws. [251] (P.C.B. to bottom frame)
→ Release 2 spacers locking. (P.C.B. to bottom frame)
→ Remove power supply unit.

● Cable connections

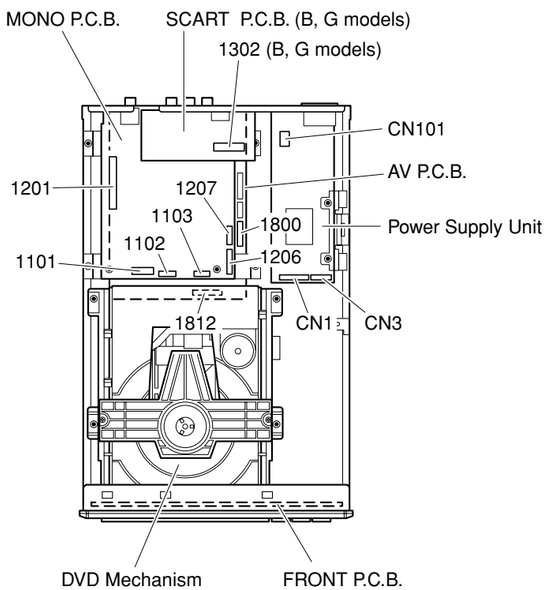


Fig. 1

● How to manually eject the tray

a. Turn the player bottom up.
b. Move the slider in the direction indicated with a screw driver until the tray is ejected.
c. Gently pull the tray out.

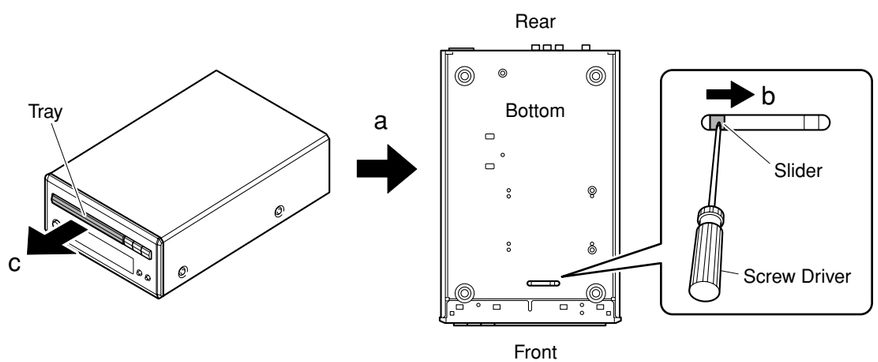


Fig. 2

● Preventive measure for laser diode from electrostatic breakdown

When replacing the MONO P.C.B. or DVD mechanism, solder between lands of the optical pick up P.C.B. to protect the laser diode against electrostatic breakdown.

Notes
- Use an anti-static soldering iron to short-circuit and unshort-circuit laser diode.
- After you have finished repairing, remove the solder from the short-circuit location.

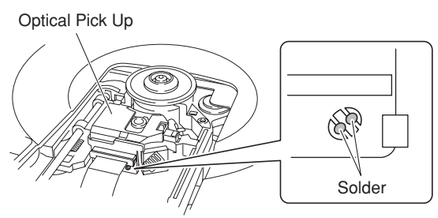


Fig. 3

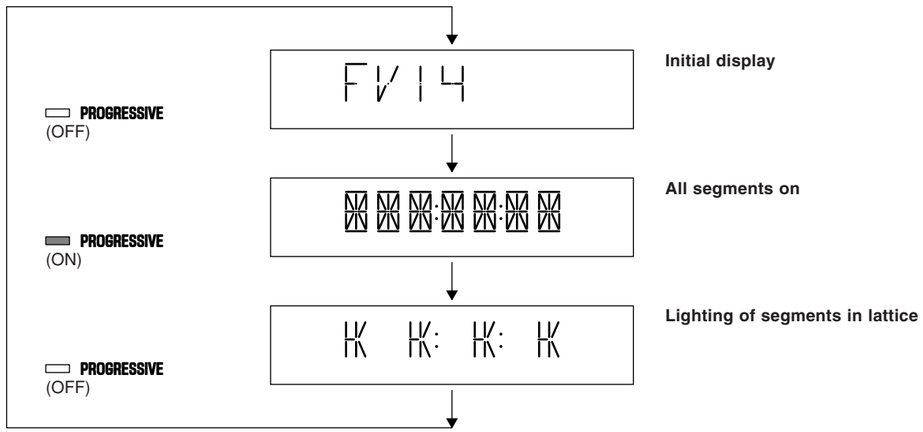
■ TEST MODE

• Starting Test Mode

a. Connect the power cable to the AC outlet.
b. Press the “STANDBY/ON” key while simultaneously pressing “NEXT/F.FWD” and “STOP” keys of the main unit.
   At this time, keep pressing “NEXT/F.FWD” and “STOP” keys for 8 seconds or longer.
c. The “FV xx” (firmware version) is displayed.
   * The firmware version and region code appears on the TV monitor screen at this time.

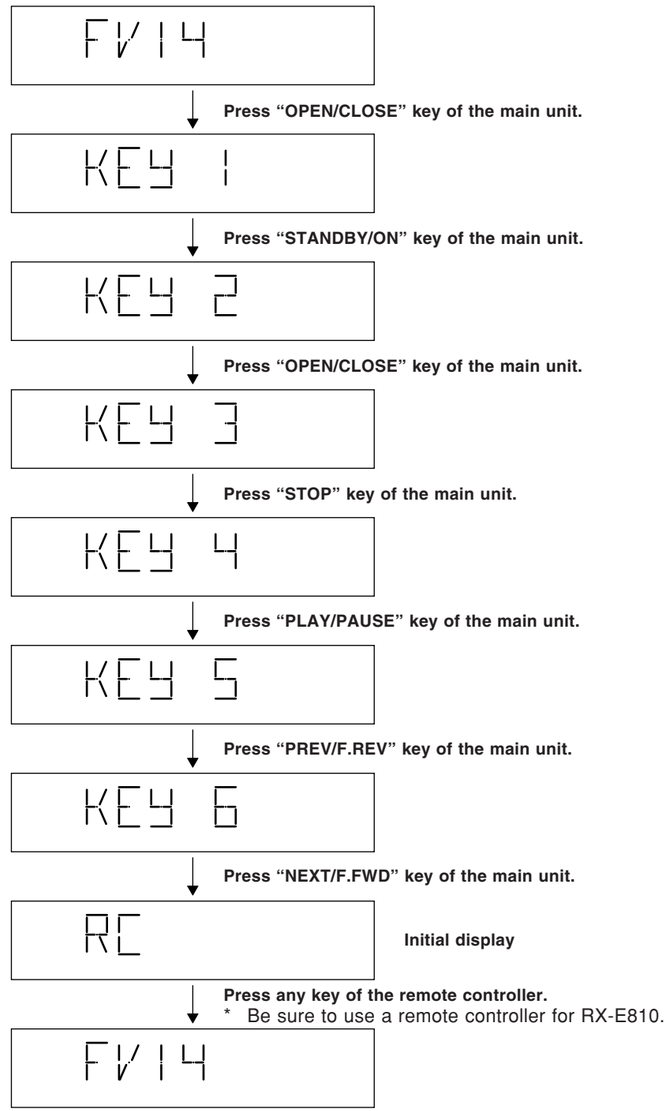
• Display Test

The display condition varies as shown below according to the “PLAY” key of the main unit.



• Panel Key Test

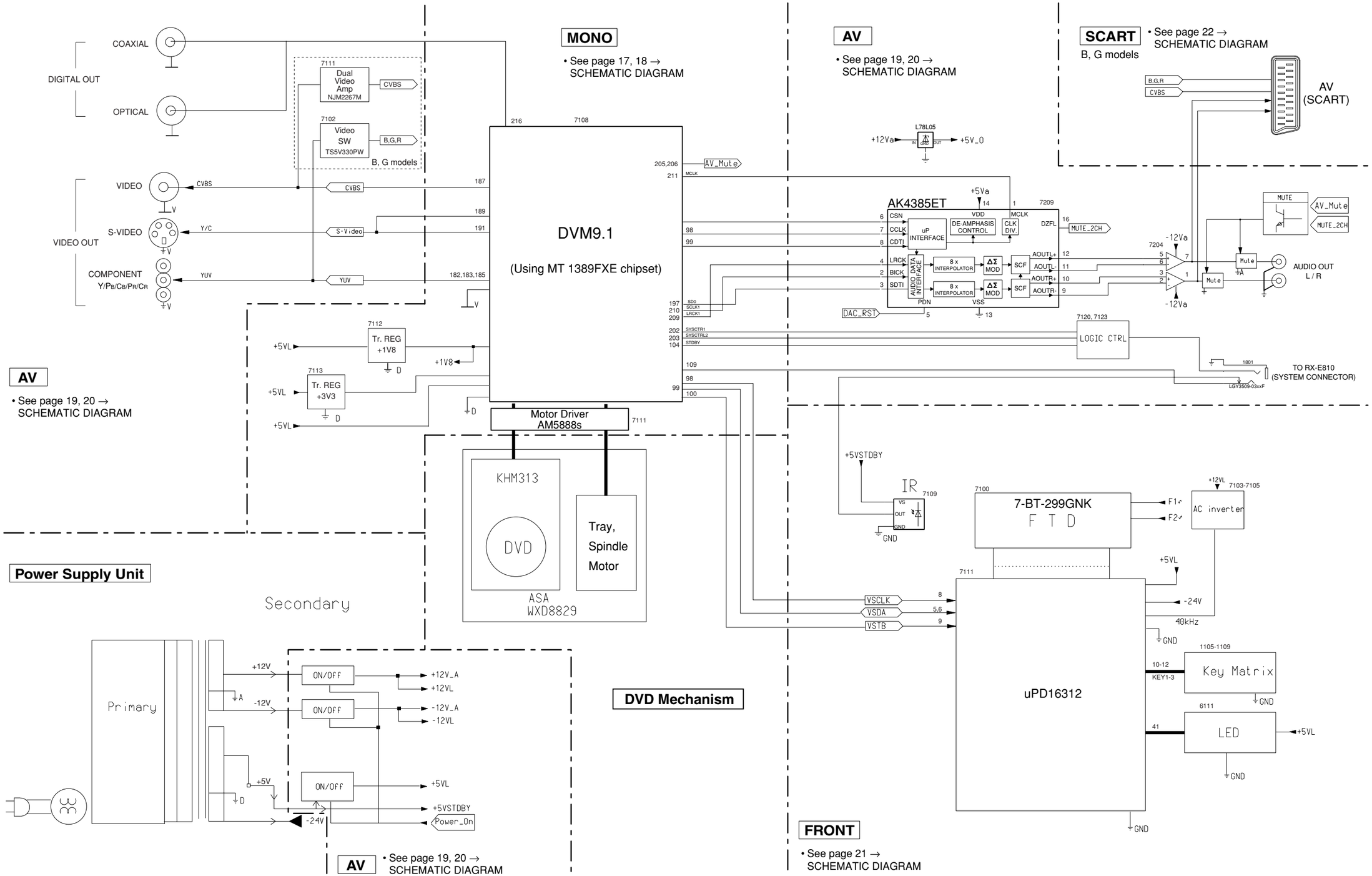
The display changes as shown below as the specified key is pressed.
* When performing the panel key test, a remote controller for RX-E810 is required.



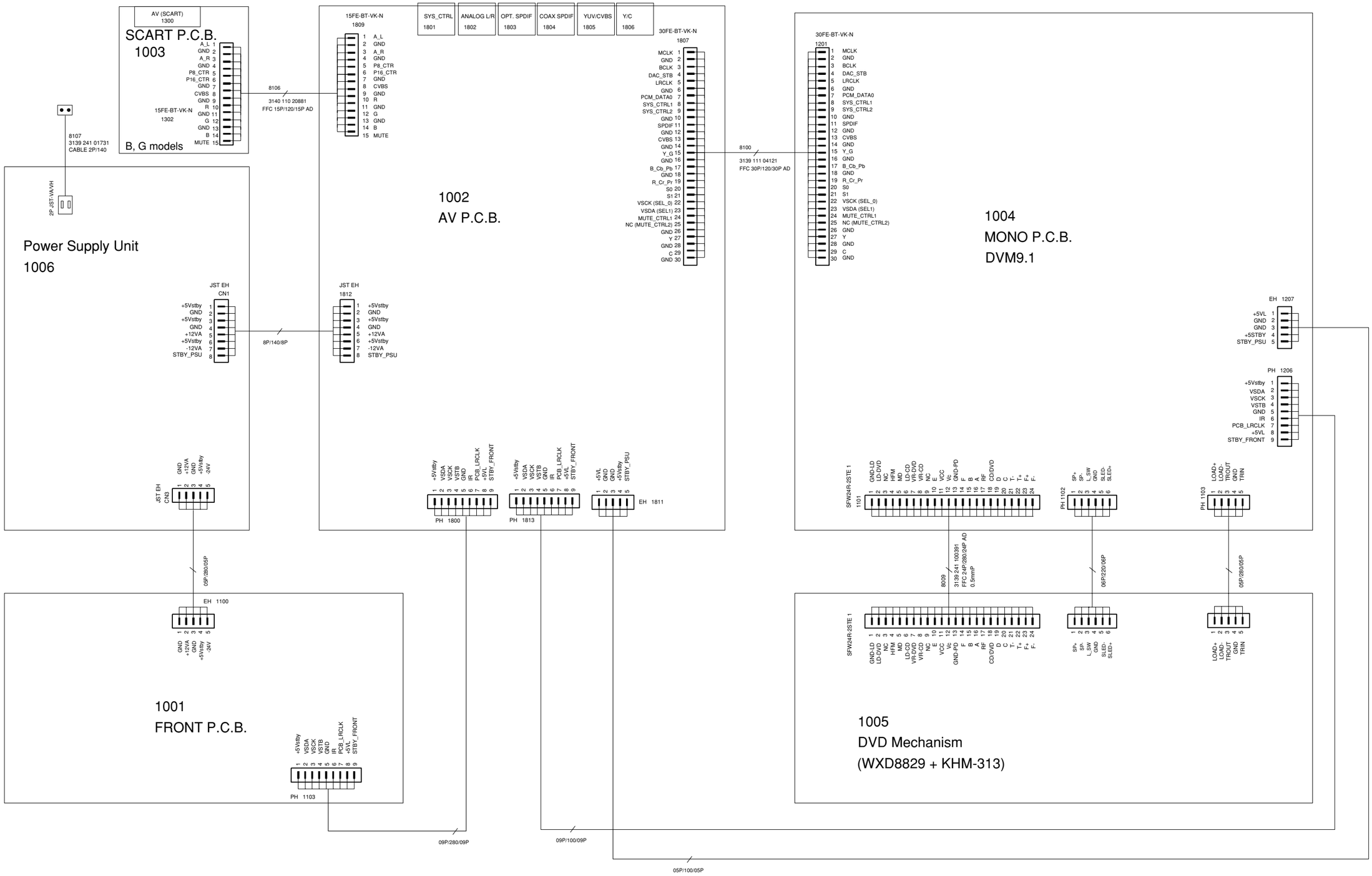
• Canceling Test Mode

Disconnect the power cable from the AC outlet.

■ BLOCK DIAGRAM



■ WIRING DIAGRAM



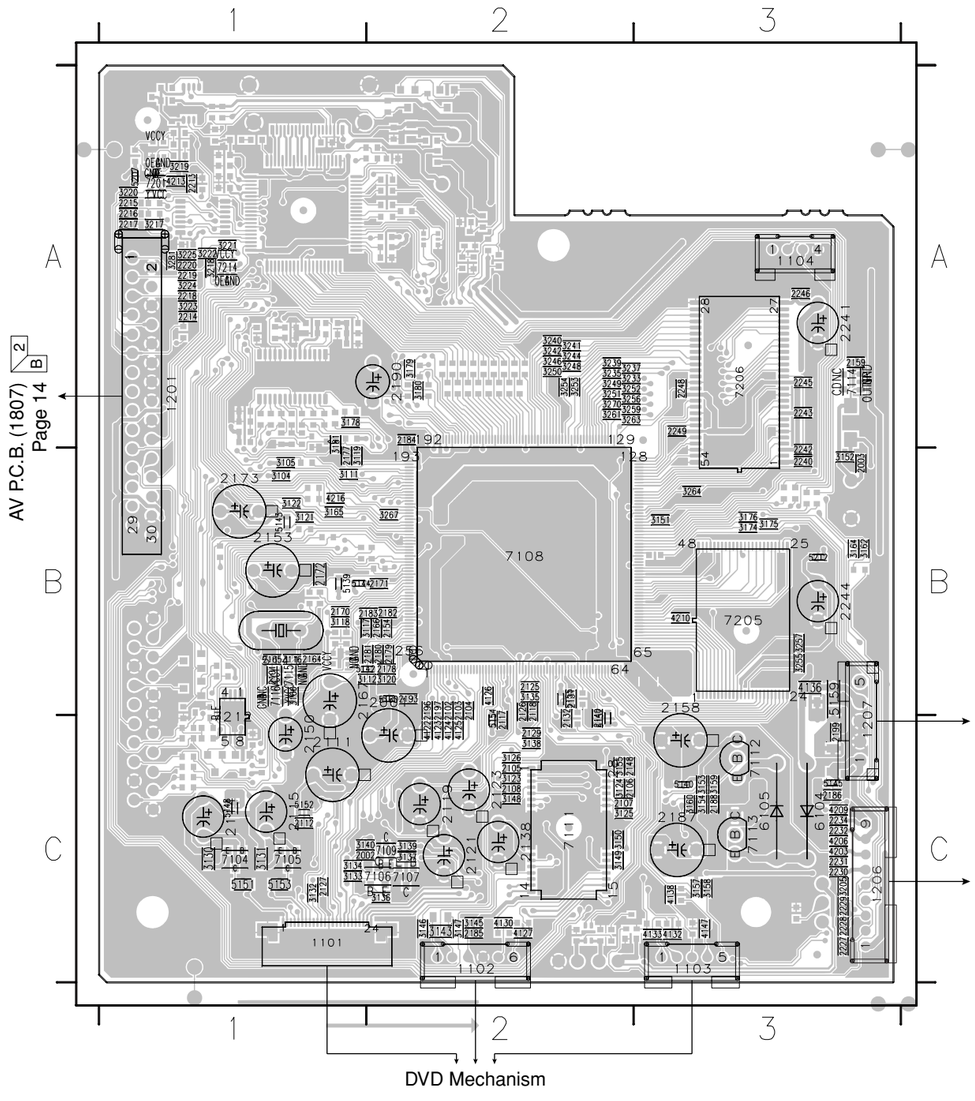
■ PRINTED CIRCUIT BOARDS

FOR INFORMATION ONLY (NO SERVICE PARTS WILL BE AVAILABLE)

The first digit of a component indicates the component type.

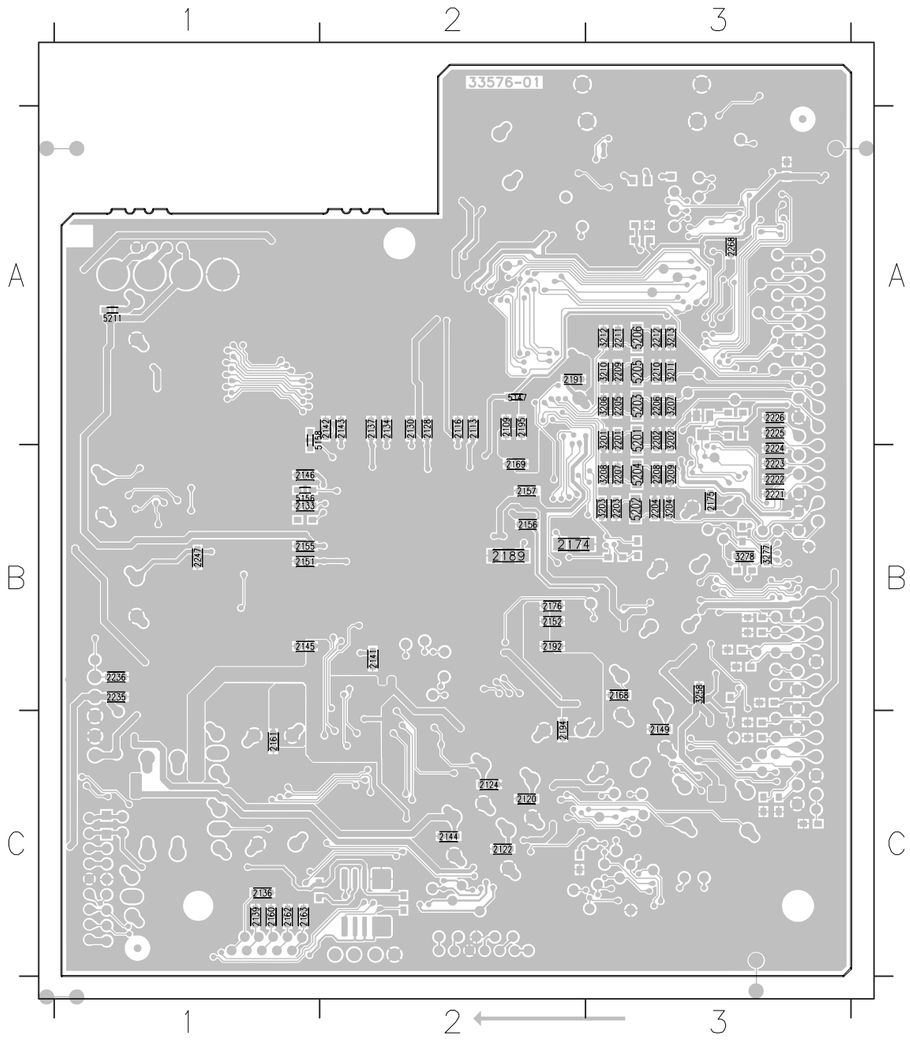
1xxx : Connector	3xxx : Resistor	5xxx : Coil	7xxx : IC, Transistor, FET
2xxx : Capacitor	4xxx : SMD jumper	6xxx : Diode	9xxx : Wire jumper

MONO P.C.B. Top View



1101	C1	3104	B1	3324	A2
1102	C2	3105	B1	3327	A2
1103	C3	3112	B2	3328	A2
1104	A3	3116	B1	3329	A2
1201	A1	3117	B1	3330	A2
1206	C3	3118	B1	4122	C2
1207	C3	3119	B1	4123	C2
2001	B2	3120	B2	4124	C2
2002	C1	3121	B1	4125	C2
2003	B3	3122	B1	4126	B2
2101	B1	3123	C2	4127	C2
2102	B2	3124	C2	4130	C2
2103	B2	3125	C2	4132	C3
2104	B2	3126	C2	4133	C3
2105	C2	3130	C1	4136	B3
2106	C2	3131	C1	4138	C3
2107	C2	3132	C1	4147	C3
2108	C2	3133	C1	4203	C3
2111	C1	3134	C1	4206	C3
2112	C1	3135	B2	4209	C3
2114	C1	3136	C2	4210	B3
2115	C1	3137	C2	4213	A1
2117	C2	3138	C2	4216	B1
2118	B2	3139	C2	5139	B1
2119	C2	3140	C1	5140	C3
2121	C2	3143	C2	5141	B1
2123	C2	3145	C2	5142	B1
2125	B2	3146	C2	5143	B1
2126	B2	3147	C2	5144	B1
2127	C1	3148	C2	5145	C3
2129	C2	3149	C2	5148	C1
2131	B2	3150	C2	5151	C1
2132	C2	3151	B3	5152	C1
2138	C2	3152	B3	5153	C1
2140	C2	3153	C3	5154	C2
2148	C2	3154	C3	5155	B2
2150	C1	3155	C2	5157	C2
2153	B1	3157	C3	5159	B3
2154	B2	3158	C3	5160	B2
2158	B3	3159	C3	5207	A1
2159	A3	3160	C3	5212	B3
2164	B1	3162	B3	6104	C3
2165	B1	3164	B3	6105	C3
2166	B2	3165	B1	7104	C1
2167	B1	3166	B1	7105	C1
2170	B1	3174	B3	7106	C2
2171	B2	3175	B3	7107	C2
2172	B1	3176	B3	7108	B2
2173	B1	3178	A1	7109	C2
2177	B1	3179	A2	7111	C2
2178	B2	3180	A2	7112	C3
2179	B2	3181	A1	7113	C3
2180	B2	3205	C3	7114	A3
2181	B2	3217	A1	7115	B1
2182	B2	3218	A1	7116	B1
2183	B2	3219	A1	7201	A1
2184	A2	3220	A1	7205	B3
2185	C2	3221	A1	7206	A3
2186	C3	3222	A1	7212	C1
2187	C3	3223	A1	7214	A1
2188	C3	3224	A1		
2190	A2	3225	A1		
2193	B2	3233	A2		
2196	B2	3235	A2		
2197	B2	3237	A2		
2199	C3	3239	A2		
2213	A1	3240	A2		
2214	A1	3241	A2		
2215	A1	3242	A2		
2216	A1	3244	A2		
2217	A1	3246	A2		
2218	A1	3248	A2		
2219	A1	3249	A2		
2220	A1	3250	A2		
2227	C3	3251	A2		
2228	C3	3252	A2		
2229	C3	3253	A2		
2230	C3	3254	A2		
2231	C3	3255	B3		
2232	C3	3256	A2		
2234	C3	3257	B3		
2240	B3	3259	A2		
2241	A3	3261	A2		
2242	B3	3263	A2		
2243	A3	3264	B3		
2244	B3	3267	B2		
2245	A3	3268	A1		
2246	A3	3269	A1		
2248	A3	3270	A2		
2249	A3	3281	A1		

MONO P.C.B. Bottom View



2109	A2				
2113	A2				
2116	A2				
2120	C2				
2122	C2				
2124	C2				
2128	A2				
2130	A2				
2133	B1				
2134	A2				
2136	C1				
2137	A2				
2139	C1				
2141	B2				
2142	A2				
2143	A2				
2144	C2				
2145	B1				
2146	B1				
2149	C3				
2151	B1				
2152	B2				
2155	B1				
2156	B2				
2157	B2				
2160	C1				
2161	C1				
2162	C1				
2163	C1				
2168	B3				
2169	B2				
2174	B2				
2175	B3				
2176	B2				
2189	B2				
2191	A2				
2192	B2				
2194	C2				
2195	A2				
2201	A3				
2202	A3				
2203	B3				
2204	B3				
2205	A3				
2206	A3				
2207	B3				
2208	B3				
2209	A3				
2210	A3				
2211	A3				
2212	A3				
2221	B3				
2222	B3				
2223	B3				
2224	B3				
2225	A3				
2226	A3				
2235	B1				
2236	B1				
2247	B1				
2268	A3				
3201	A3				
3202	A3				
3203	B3				
3204	B3				
3206	A3				
3207	A3				
3208	B3				
3209	B3				
3210	A3				
3211	A3				
3212	A3				
3213	A3				
3258	B3				
3277	B3				
3278	B3				
5147	A2				
5156	B1				
5158	A1				
5201	A3				
5202	B3				
5203	A3				
5204	B3				
5205	A3				
5206	A3				
5211	A1				

The first digit of a component indicates the component type.

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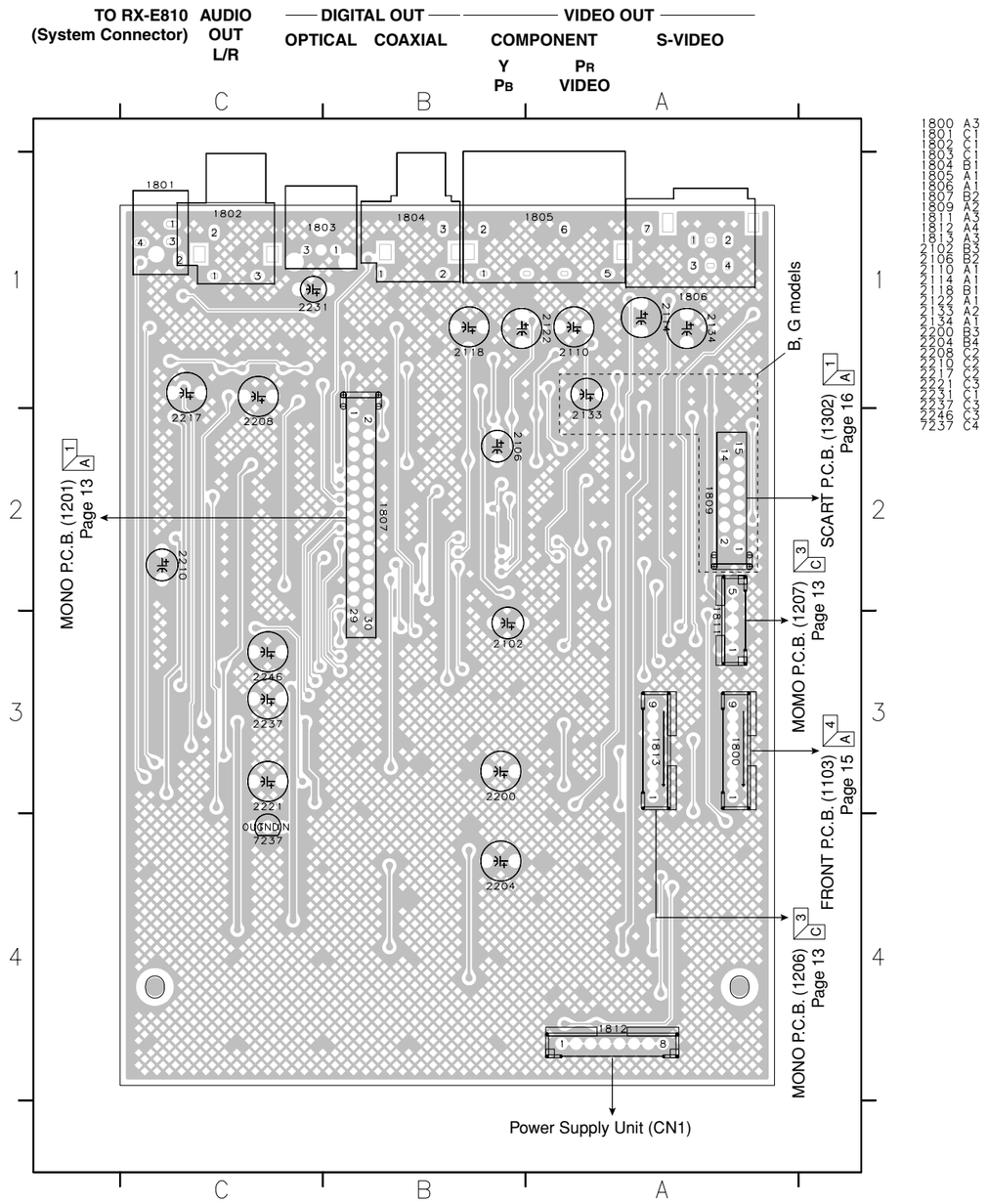
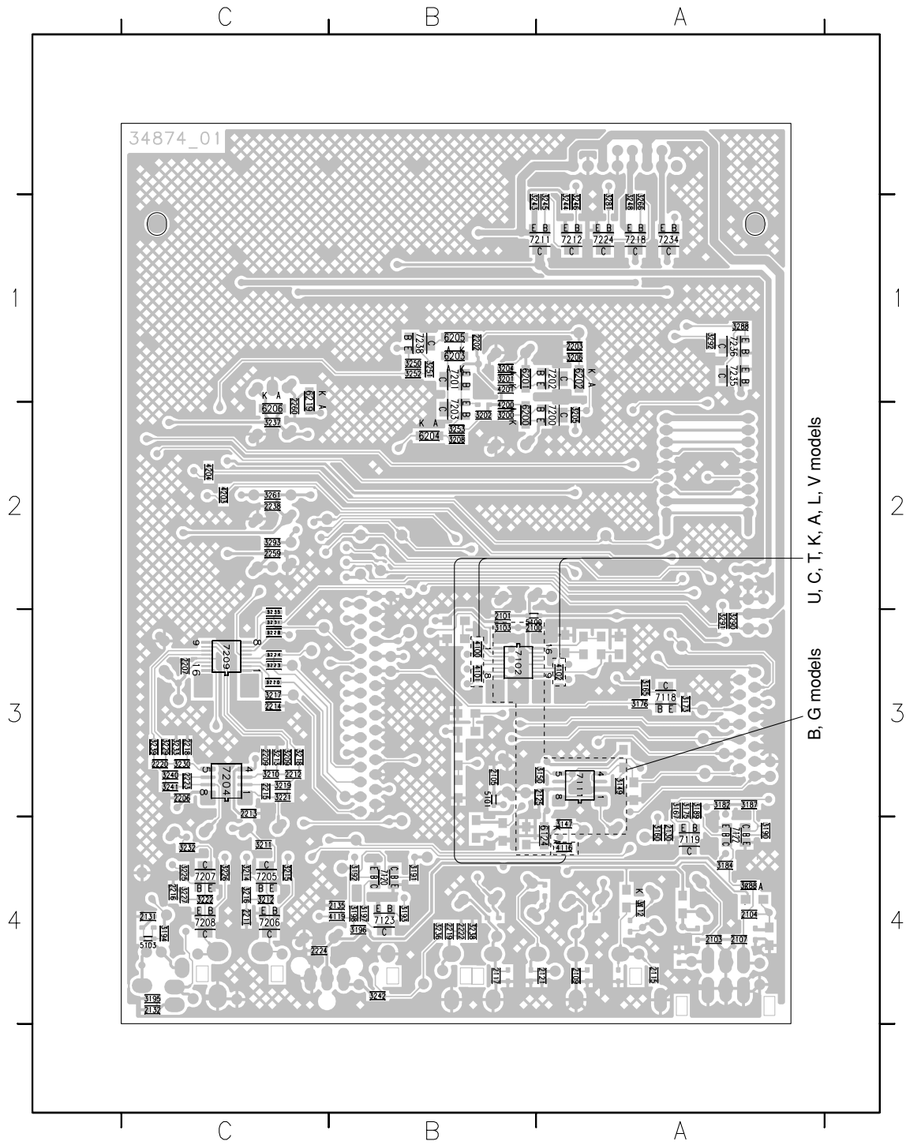
2xxx : Capacitor	4xxx : SMD jumper	6xxx : Diode	9xxx : Wire jumper

AV P.C.B. Top View



1800 A3
1801 C1
1802 C1
1803 A3
1804 B1
1805 A1
1806 A1
1807 B2
1809 A2
1811 A3
1812 A4
1813 A3
2102 B3
2106 B2
2110 A1
2114 A1
2118 B1
2122 A1
2133 A2
2134 A1
2200 B3
2204 B4
2208 C2
2210 C2
2217 C2
2221 C3
2231 C1
2237 C3
2246 C3
7237 C4

AV P.C.B. Bottom View

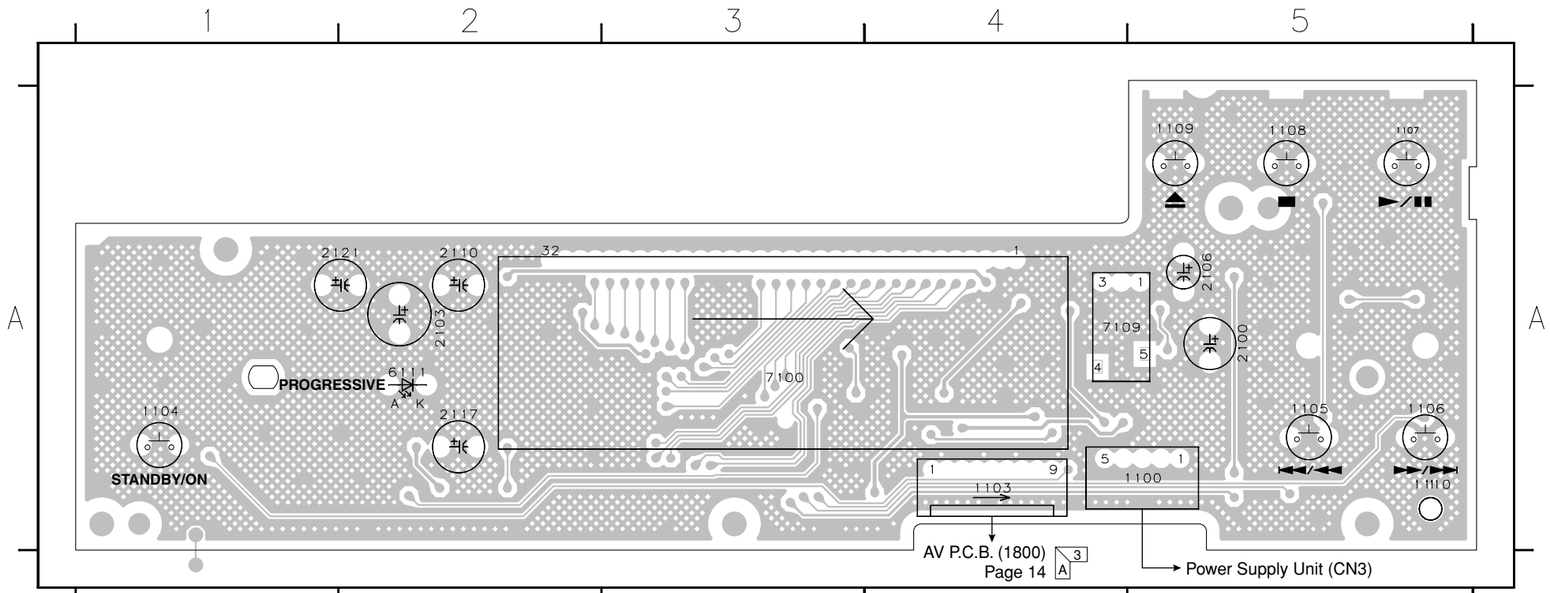


2100 B3
2101 B3
2103 A4
2104 A4
2105 B3
2107 A4
2109 A4
2115 A4
2119 B4
2121 A4
2125 A3
2130 A4
2131 C4
2132 C4
2135 B4
2202 B1
2203 A1
2206 C3
2207 C3
2209 C3
2211 C3
2212 C3
2213 C3
2214 C3
2215 C4
2216 C4
2218 C3
2219 B4
2220 C4
2222 B4
2223 C3
2224 C4
2238 C2
2256 C2
2260 C2
3103 B3
3117 A4
3147 A4
3149 A3
3150 A3
3160 A4
3165 A3
3167 A3
3173 A3
3175 A3
3176 A3
3182 A3
3184 A4
3187 A3
3188 A4
3189 A3
3190 A4
3191 B4
3192 B4
3193 B4
3194 C4
3195 C4
3196 B4
3197 B4
3198 B4
3200 B2
3201 B1
3202 B2
3204 B1
3205 A2
3206 A1
3208 B2
3209 C3
3210 C3
3211 C4
3212 C3
3213 C3
3214 C4
3215 C4
3216 C4
3217 C3
3218 C3
3219 C3
3220 C3
3221 C3
3222 C4
3223 C3
3224 C3
3225 C4
3226 C4
3227 C4
3228 C3
3229 C3
3230 C3
3231 C3
3232 C4
3233 C3
3235 C3
3236 B4
3237 B2
3238 B4
3239 C3
3240 C3
3241 C3
3242 B4
3243 B1
3244 A1
3245 A1
3246 A1
3248 A1
3250 B1
3251 B1
3252 B1
3253 B2
3261 C2
3286 A1
3288 A1
3290 A3
3291 A3
3292 A1
3293 C2
4100 B3
4101 B3
4102 A3
4116 A4
4119 B4
4200 B2
4201 B1
4203 C2
4204 C2
5100 B3
5101 B3
5103 C4
6200 B2
6201 B1
6202 A1
6203 B1
6204 B2
6205 B1
6206 C2
6213 C1
7102 B3
7111 A3
7118 A3
7119 A4
7120 B4
7122 A4
7123 B4
7200 A2
7201 B1
7202 A1
7203 B2
7204 C3
7205 C4
7206 C4
7207 C4
7208 C4
7209 C3
7211 A1
7212 A1
7216 A1
7224 A1
7234 A1
7235 A1
7236 A1
7238 B1

The first digit of a component indicates the component type.

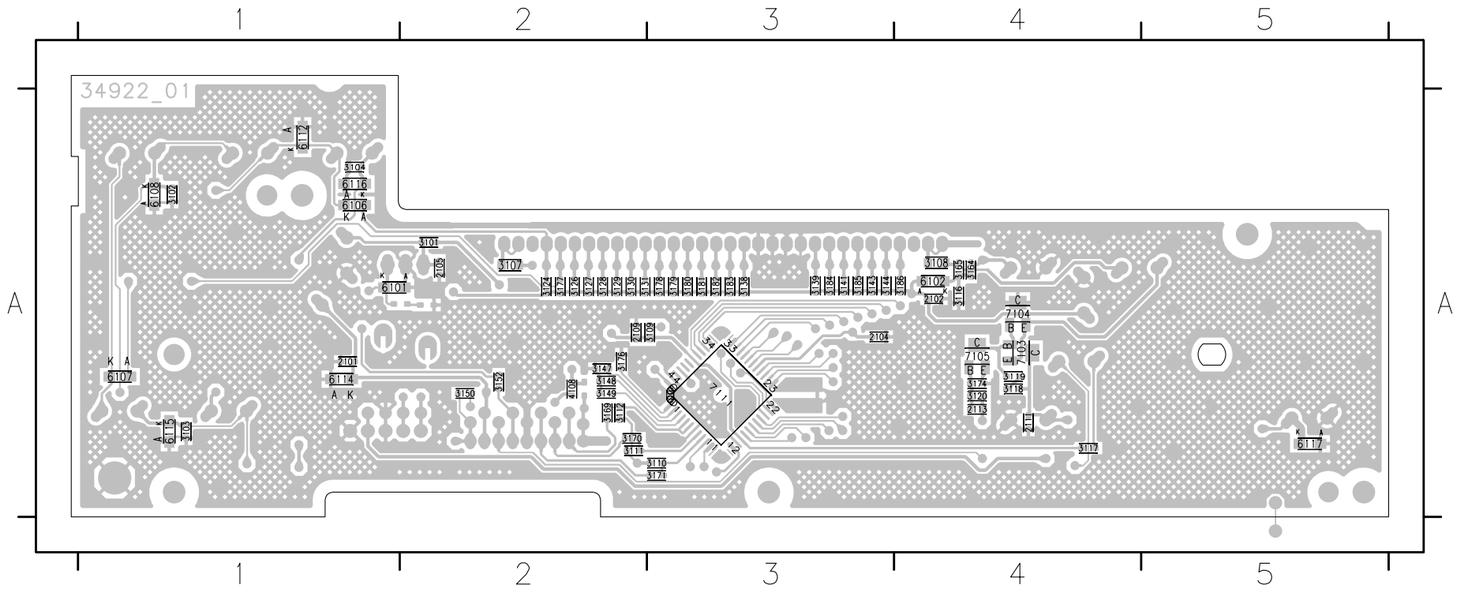
1xxx : Connector	3xxx : Resistor	5xxx : Coil	7xxx : IC, Transistor, FET
2xxx : Capacitor	4xxx : SMD jumper	6xxx : Diode	9xxx : Wire jumper

FRONT P.C.B. Top View



1100 A5
1103 A4
1104 A1
1105 A5
1106 A5
1107 A5
1108 A5
1109 A5
1110 A5
2100 A5
2103 A2
2106 A5
2110 A2
2117 A2
2121 A2
6111 A2
7100 A3
7109 A4

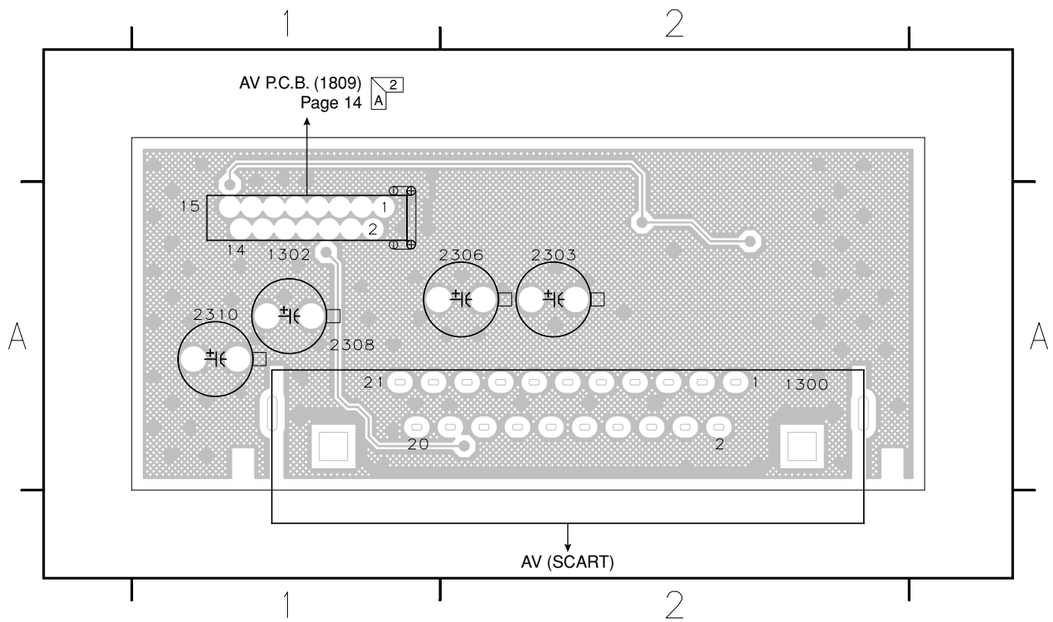
FRONT P.C.B. Bottom View



The first digit of a component indicates the component type.

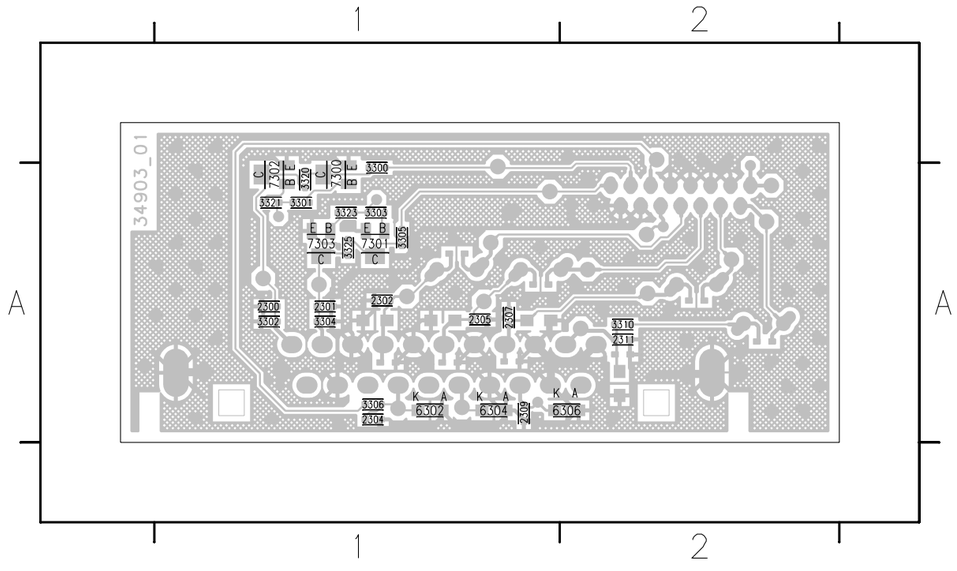
1xxx : Connector	3xxx : Resistor	5xxx : Coil	7xxx : IC, Transistor, FET
2xxx : Capacitor	4xxx : SMD jumper	6xxx : Diode	9xxx : Wire jumper

SCART P.C.B. Top View (B, G models)



1300 A2
1302 A1
2303 A2
2306 A2
2308 A1
2310 A1

SCART P.C.B. Bottom View (B, G models)



2300 A1
2301 A1
2302 A1
2304 A1
2305 A1
2307 A1
2309 A1
2311 A2
3300 A1
3301 A1
3302 A1
3303 A1
3304 A1
3305 A1
3306 A1
3310 A2
3320 A1
3321 A1
3323 A1
3325 A1
6302 A1
6304 A1
6306 A2
7300 A1
7301 A1
7302 A1
7303 A1

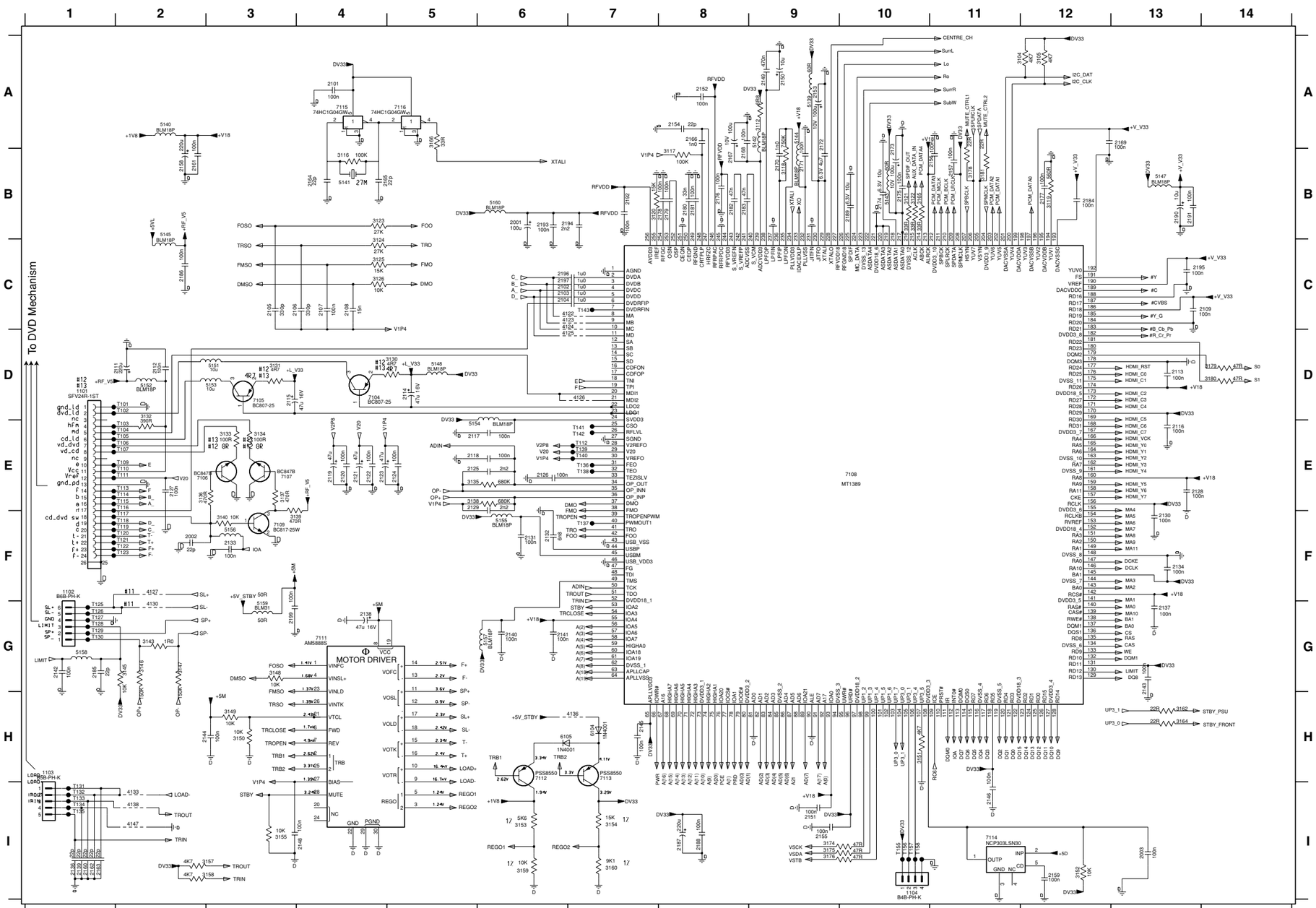
The first digit of a component indicates the component type.

1xxx : Connector	3xxx : Resistor	5xxx : Coil	7xxx : IC, Transistor, FET
2xxx : Capacitor	4xxx : SMD jumper	6xxx : Diode	9xxx : Wire jumper

■ SCHEMATIC DIAGRAMS

FOR INFORMATION ONLY (NO SERVICE PARTS WILL BE AVAILABLE)

MONO 1/2



1101 D1 1102 F1 1103 H1 1104 I10 2001 B6 2002 F2 2003 I13 2101 A4 2102 C6 2103 C6 2104 C6 2105 C3 2106 C4 2107 C4 2108 C4 2109 C14 2111 D2 2112 D2 2113 D13 2114 D5 2115 D3 2116 E13 2117 E5 2118 E5 2119 E4 2120 E4 2121 E4 2122 E4 2123 E4 2124 E5 2125 E5 2126 E6 2127 E2 2128 E13 2129 E5 2130 F13 2131 F6 2132 F6 2133 F3 2134 F13 2136 I1 2137 G13 2138 G4 2139 I1 2140 G6 2141 G6 2142 G1 2143 G13 2144 H3 2145 H7 2146 I11 2148 I4 2149 A9 2150 A9 2151 I9 2152 A8 2153 A9 2154 A8 2155 I9 2156 B10 2157 B11 2158 B2 2159 I12 2160 I1 2161 B2 2162 I1 2163 I1 2164 B4 2165 B5 2166 A8 2167 B8 2168 B8 2169 A13 2170 B9 2171 B9 2172 A9 2173 B10 2174 B10 2175 B10 2176 B8 2177 B12 2178 B8 2179 B8 2180 B8 2181 B8 2182 B8 2183 B8 2184 B12 2185 G1 2186 C2 2187 I8 2188 I8 2189 B10 2190 B13 2191 B13 2192 B7 2193 B6 2194 B6 2195 C13 2196 C6 2197 C6 2199 G3 3104 A12 3105 A12 3112 A9 3116 B4 3117 B8 3118 B9 3119 B12 3120 B7 3121 B10 3122 B10 3123 B4 3124 C4 3125 C4 3129 D14 3130 D5 3131 D3 3132 D2 3133 E3 3134 E3 3135 E5 3136 E2 3137 E3 3138 E5 3139 F3 3140 F3 3142 G2 3143 G2 3145 G2 3146 G2 3147 G2 3148 G3 3149 H3 3150 H3 3151 H10 3152 I12 3153 I6 3154 I7 3155 I3 3157 I3 3158 I3 3159 I6 3160 I7 3162 H13 3164 H13 3165 B10 3166 A5 3174 I9 3175 I9 3176 I9 3178 B11 3179 D14 3180 D14 3183 F7 4122 C7 4123 C7 4124 C7 4125 D7 4126 D7 4127 F2 4130 G2 4133 I2 4136 H7 4138 I2 4147 I2 5139 A9 5140 A2 5141 B4 5142 A9 5143 B10 5144 A9 5145 B2 5147 B13 5148 D5 5151 D3 5152 D2 5153 D3 5154 E5 5155 F6 5156 F3 5157 G6 5158 G1 5159 G3 5160 B6 6104 H7 6105 H6 7104 D4 7105 D3 7106 E2 7107 E3 7108 E10 7109 F3 7111 G4 7112 H6 7113 H7 7114 I11 7115 A4 7116 A5 T101 D2 T102 D2 T103 E2 T104 E2 T105 E2 T106 E2 T107 E2 T108 E2 T109 E2 T110 E2 T111 E2 T112 E7 T113 E2 T114 E2 T115 E2 T116 E2 T117 F2 T118 F2 T119 F2 T120 F2 T121 F2 T122 F2 T123 F2 T125 G1 T126 G1 T127 G1 T128 G1 T129 G1 T130 G1 T131 I1 T132 I1 T133 I1 T134 I1 T135 I1 T136 E7 T137 F7 T138 E7 T139 E7 T140 E7 T141 E7 T142 E7 T143 C7 T155 I10 T156 I10 T157 I10 T158 I10

★ Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

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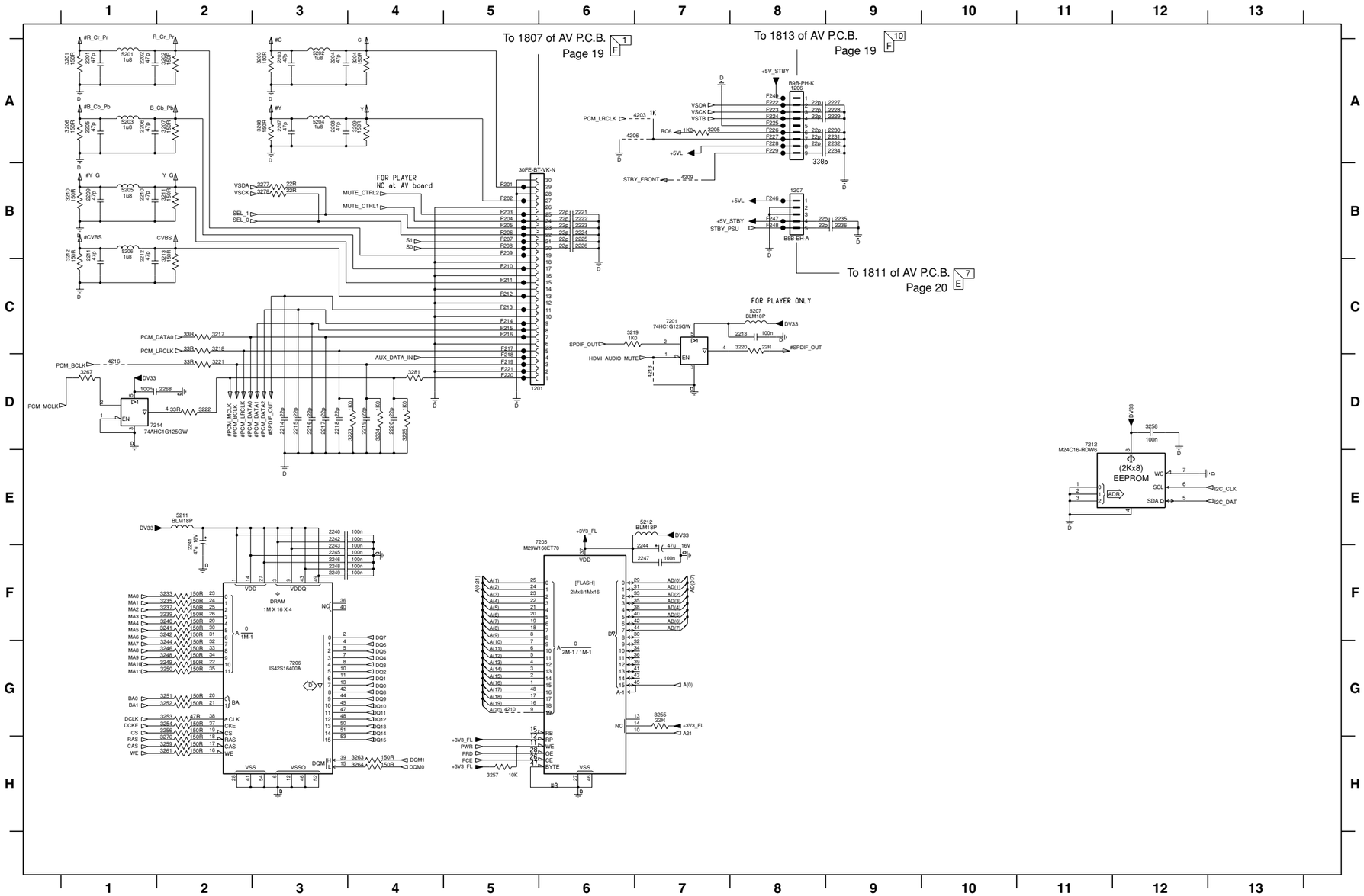
MONO 2/2



1201 D5
1206 A8
1207 B8
2201 A1
2202 A1
2203 A3
2204 A3
2205 A1
2206 A1
2207 A3
2208 A3
2209 B1
2210 B1
2211 B1
2212 B1
2213 C8
2214 D3
2215 D3
2216 D3
2217 D3
2218 D3
2219 D4
2220 D4
2221 B6
2222 B6
2223 B6
2224 B6
2225 B6
2226 B6
2227 A9
2228 A9
2229 A9
2230 A9
2231 A9
2232 A9
2234 A9
2235 B9
2236 B9
2240 E3
2241 E2
2242 E3
2243 F3
2244 F7
2245 F3
2246 F3
2247 F7
2248 F3
2249 F3
2268 D2
3201 A1
3202 A2
3203 A3
3204 A4
3205 A7
3206 A1
3207 A2
3208 A3
3209 A4
3210 B1
3211 B2
3212 B1
3213 B2
3217 C2
3218 C2
3219 C6
3220 C8
3221 D2
3222 D2
3223 D4
3224 D4
3225 D4
3233 F2
3235 F2
3237 F2
3239 F2
3240 F2
3241 F2
3242 F2
3244 G2
3246 G2
3248 G2
3249 G2
3250 G2
3251 G2
3252 G2
3253 G2
3254 G2
3255 G7
3256 G2
3257 H5
3258 D12
3259 H2
3261 H2
3263 H4
3264 H4
3267 D1
3270 H2
3277 B3
3278 B3
3281 D4
4203 A7
4206 A6
4209 B7
4210 G5
4213 D7
4216 D1
5201 A1
5202 A3
5203 A1
5204 A3
5205 B1
5206 B1
5207 C8
5211 E2
5212 E7
7201 C7
7205 E5
7206 G3
7212 D11
7214 D2
F201 B5
F202 B5
F203 B5
F204 B5
F205 B5
F206 B5
F207 B5
F208 B5
F209 B5
F210 C5
F211 C5
F212 C5
F213 C5
F214 C5
F215 C5
F216 C5
F217 C5
F218 D5
F219 D5
F220 D5
F221 D5
F222 A8
F223 A8
F224 A8
F225 A8
F226 A8
F227 A8
F228 A8
F229 A8
F246 B8
F247 B8
F248 B8
F249 A8

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2xxx : Capacitor	4xxx : SMD jumper	6xxx : Diode	9xxx : Wire jumper

AV 1/2

1800 F9	1813 F10	2105 B2	2115 C9	2130 F4	3103 B3	3165 G3	3184 G5	3192 E10	3198 E11	5100 B2	7119 F5	T100 F2	T108 E2	T114 E2	T122 B9	T129 D8	T135 E8	T143 F2	T153 G12
1801 G13	2100 B4	2106 B2	2117 D9	2131 F11	3112 C8	3167 F4	3187 G4	3193 F10	4100 B6	5101 B2	7120-1 E11	T101 F2	T109 E2	T115 E2	T123 B9	T130 E8	T136 E8	T144 B2	T154 G12
1805 C12	2101 B2	2107 B10	2118 D8	2132 G11	3147 D3	3173 G4	3188 G6	3194 G10	4101 B6	5103 G11	7120-2 E11	T102 D2	T110 E2	T116 D2	T124 C10	T131 E8	T137 F8	T145 B2	
1806 B12	2102 B2	2109 C9	2121 D9	2133 D4	3149 D6	3175 F4	3189 H4	3195 G11	4102 B6	7102 B4	7122-1 H5	T103 F2	T111 E2	T118 D2	T125 D10	T132 E8	T138 F8	T150 G12	
1807 F1	2103 B8	2110 C8	2122 D8	2134 B8	3150 E6	3176 G3	3190 G5	3196 D12	4116 D5	7111 D4	7122-2 H5	T104 F2	T112 E2	T119 D2	T126 C10	T133 E8	T141 F2	T151 G10	
1809 D9	2104 B8	2114 C8	2125 D5	2135 F12	3160 E4	3182 F4	3191 E10	3197 E11	4119 F12	7118 F4	7123 F12	T107 E2	T113 E2	T121 C10	T128 B11	T134 E8	T142 F2	T152 G10	

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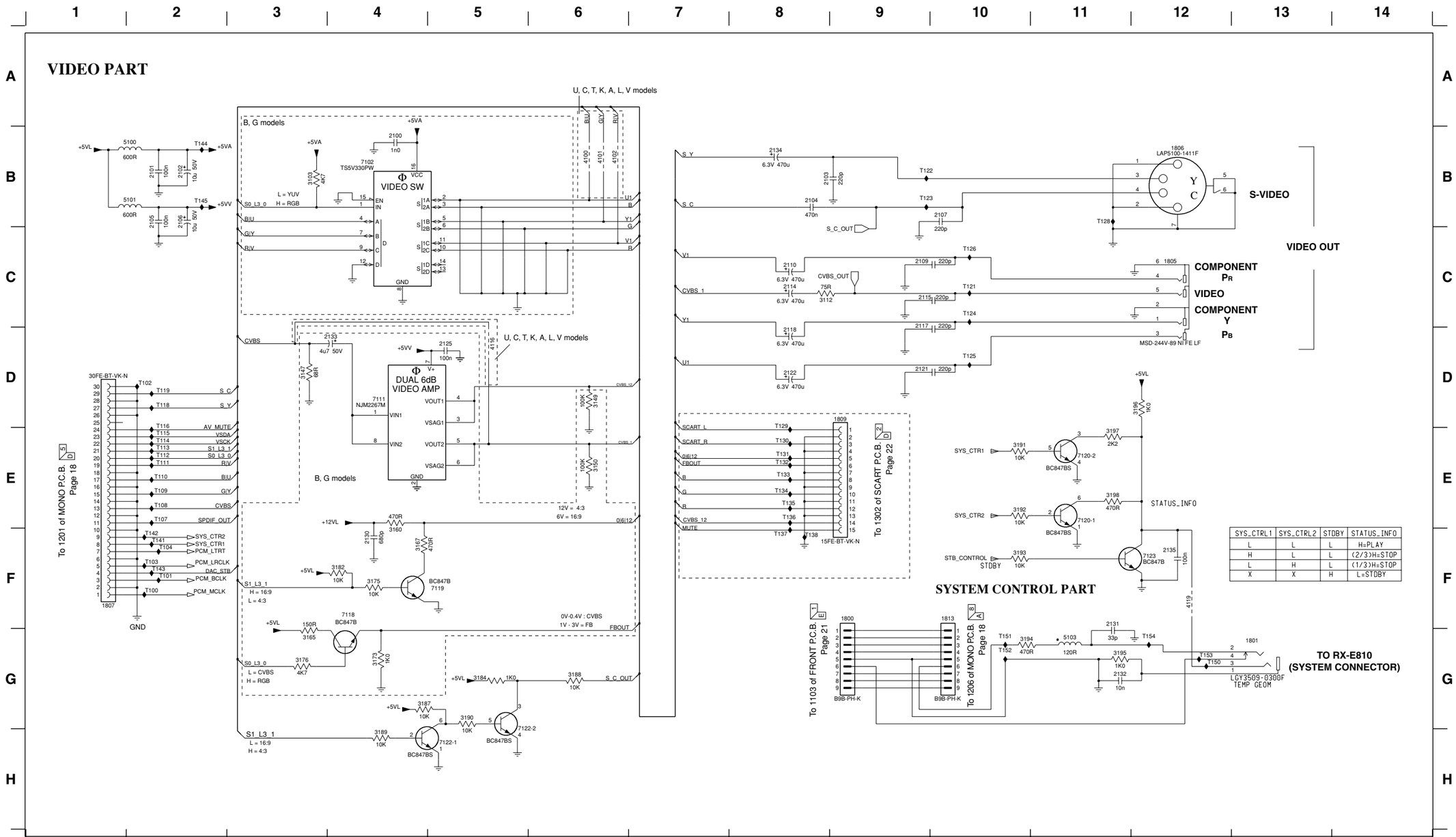

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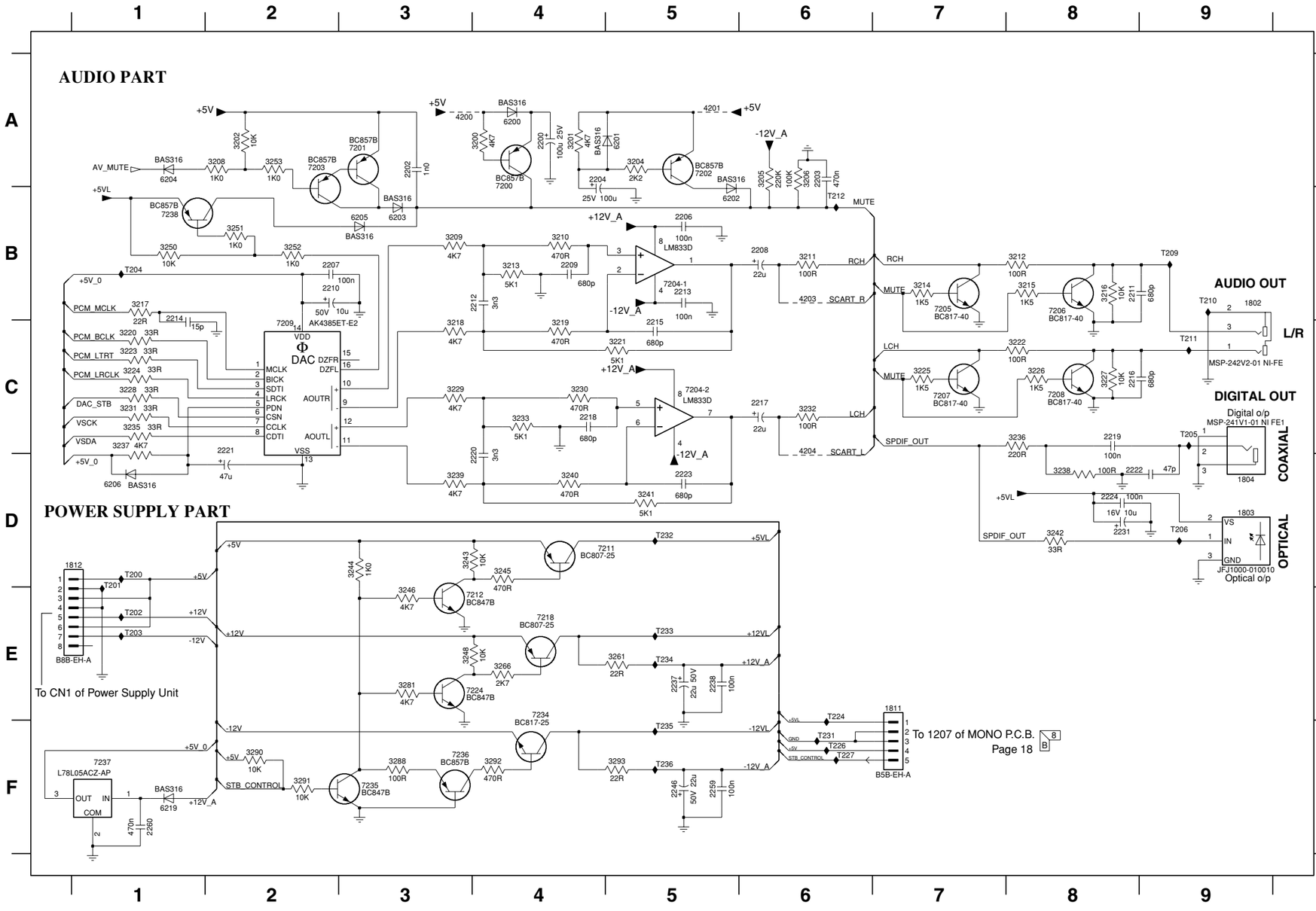
AV 2/2



1802 B9 3261 E5
1803 D9 3266 E4
1804 D9 3281 E3
1811 E7 3288 F3
1812 D1 3290 F2
2200 A4 3291 F2
2202 A3 3292 F4
2203 A6 3293 F5
2204 A4 4200 A3
2206 B5 4201 A5
2207 B2 4202 A3
2208 B6 4203 B6
2209 B4 4204 C6
2210 B2 6200 A4
2211 B8 6201 A5
2212 B4 6202 B5
2213 B5 6203 B3
2214 C1 6204 A1
2215 C5 6205 B3
2216 C8 6206 D1
2217 C6 6219 F1
2218 C4 7200 A4
2219 C8 7201 A3
2220 D4 7202 A5
2221 C2 7203 A2
2222 D8 7204-1 B5
2223 D5 7204-2 C5
2224 D8 7205 B7
2231 D8 7206 B8
2237 E5 7207 C7
2238 E5 7208 C8
2246 F5 7209 C2
2259 F5 7211 D5
2260 F1 7212 E3
3200 A4 7218 E4
3201 A4 7224 E3
3202 A2 7234 E4
3204 A5 7235 F3
3205 A6 7236 F3
3206 A6 7237 F1
3208 A2 3238 B1
3209 B3 T200 D1
3210 B4 T201 D1
3211 B6 T202 E1
3212 B8 T203 E1
3213 B4 T204 B1
3214 B7 T205 C9
3215 B8 T206 D9
3216 B8 T209 B9
3217 B1 T210 B9
3218 C3 T211 C9
3219 C4 T212 B6
3220 C1 T224 E6
3221 C5 T226 F6
3222 C8 T227 F6
3223 C1 T231 F6
3224 C1 T232 D5
3225 C7 T233 E5
3226 C8 T234 E5
3227 C8 T235 F5
3228 C1 T236 F5
3229 C3
3230 C4
3231 C1
3232 C6
3233 C4
3235 C1
3236 C8
3237 C1
3238 D8
3239 D3
3240 D4
3241 D5
3242 D8
3243 D3
3244 D3
3245 D4
3246 E3
3248 E3
3250 B1
3251 B2
3252 B2
3253 A2

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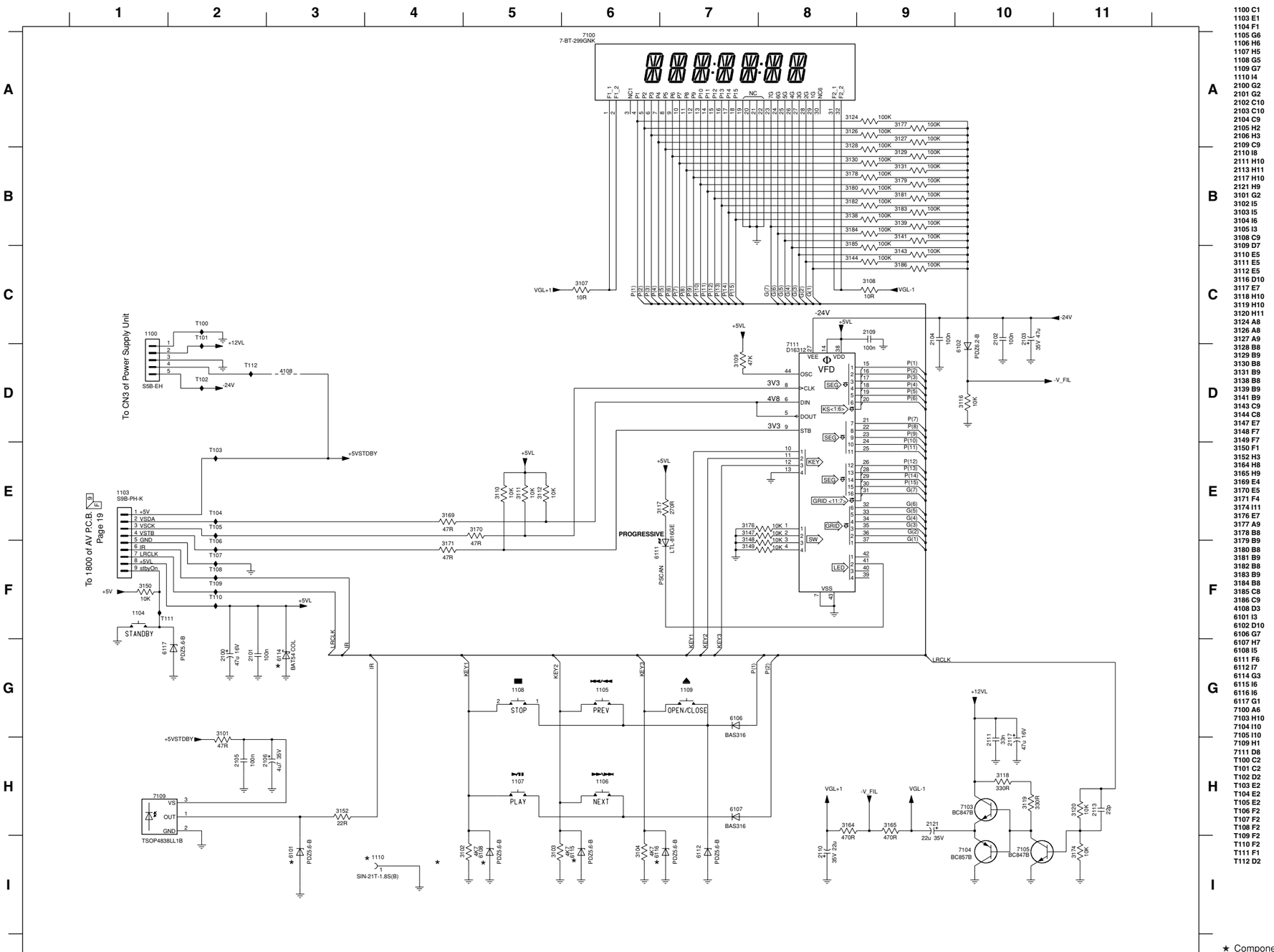
FRONT



1100 C1
1103 E1
1104 F1
1105 G6
1106 H6
1107 H5
1108 G5
1109 G7
1110 I4
2100 G2
2101 G2
2102 C10
2103 C10
2104 C9
2105 H2
2106 H3
2109 C9
2110 I8
2111 H10
2113 H11
2117 H10
2121 H9
3101 G2
3102 I5
3103 I5
3104 I6
3105 I3
3108 C9
3109 D7
3110 E5
3111 E5
3112 E5
3116 D10
3117 E7
3118 H10
3119 H10
3120 H11
3124 A8
3126 A8
3127 A9
3128 B8
3129 B9
3130 B8
3131 B9
3138 B8
3139 B9
3141 B9
3143 C9
3144 C8
3147 E7
3148 F7
3149 F7
3150 F1
3152 H3
3164 H8
3165 H9
3169 E4
3170 E5
3171 F4
3174 I11
3176 E7
3177 A9
3178 B8
3179 B9
3180 B8
3181 B9
3182 B8
3183 B9
3184 B8
3185 C8
3186 C9
4108 D3
6101 I3
6102 D10
6106 G7
6107 H7
6108 I5
6111 F6
6112 I7
6114 G3
6115 I6
6116 I6
6117 G1
7100 A6
7103 H10
7104 I10
7105 I10
7109 H1
7111 D8
T100 C2
T101 C2
T102 D2
T103 E2
T104 E2
T105 E2
T106 F2
T107 F2
T108 F2
T109 F2
T110 F2
T111 F1
T112 D2

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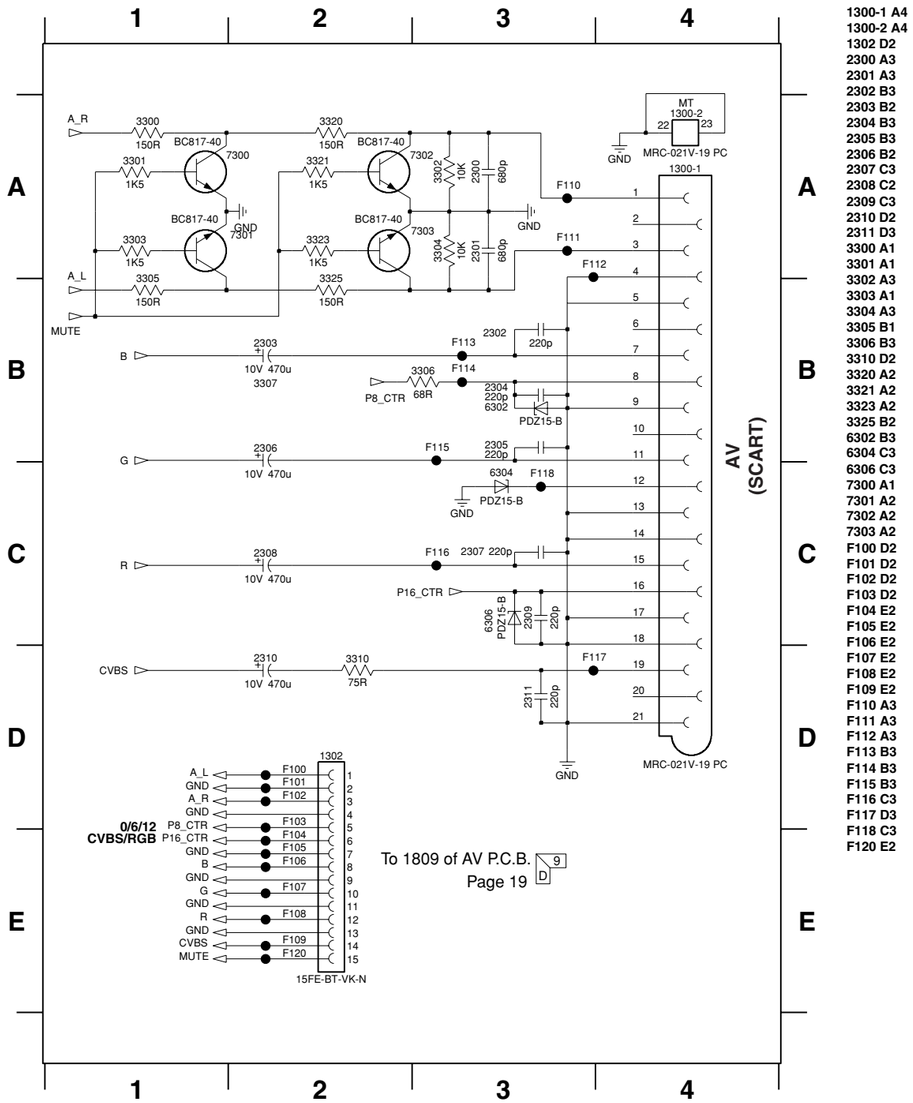
SCART (B, G models)



1300-1 A4
1300-2 A4
1302 D2
2300 A3
2301 A3
2302 B3
2303 B2
2304 B3
2305 B3
2306 B2
2307 C3
2308 C2
2309 C3
2310 D2
2311 D3
3300 A1
3301 A1
3302 A3
3303 A1
3304 A3
3305 B1
3306 B3
3310 D2
3320 A2
3321 A2
3323 A2
3325 B2
6302 B3
6304 C3
6306 C3
7300 A1
7301 A2
7302 A2
7303 A2
F100 D2
F101 D2
F102 D2
F103 D2
F104 E2
F105 E2
F106 E2
F107 E2
F108 E2
F109 E2
F110 A3
F111 A3
F112 A3
F113 B3
F114 B3
F115 B3
F116 C3
F117 D3
F118 C3
F120 E2

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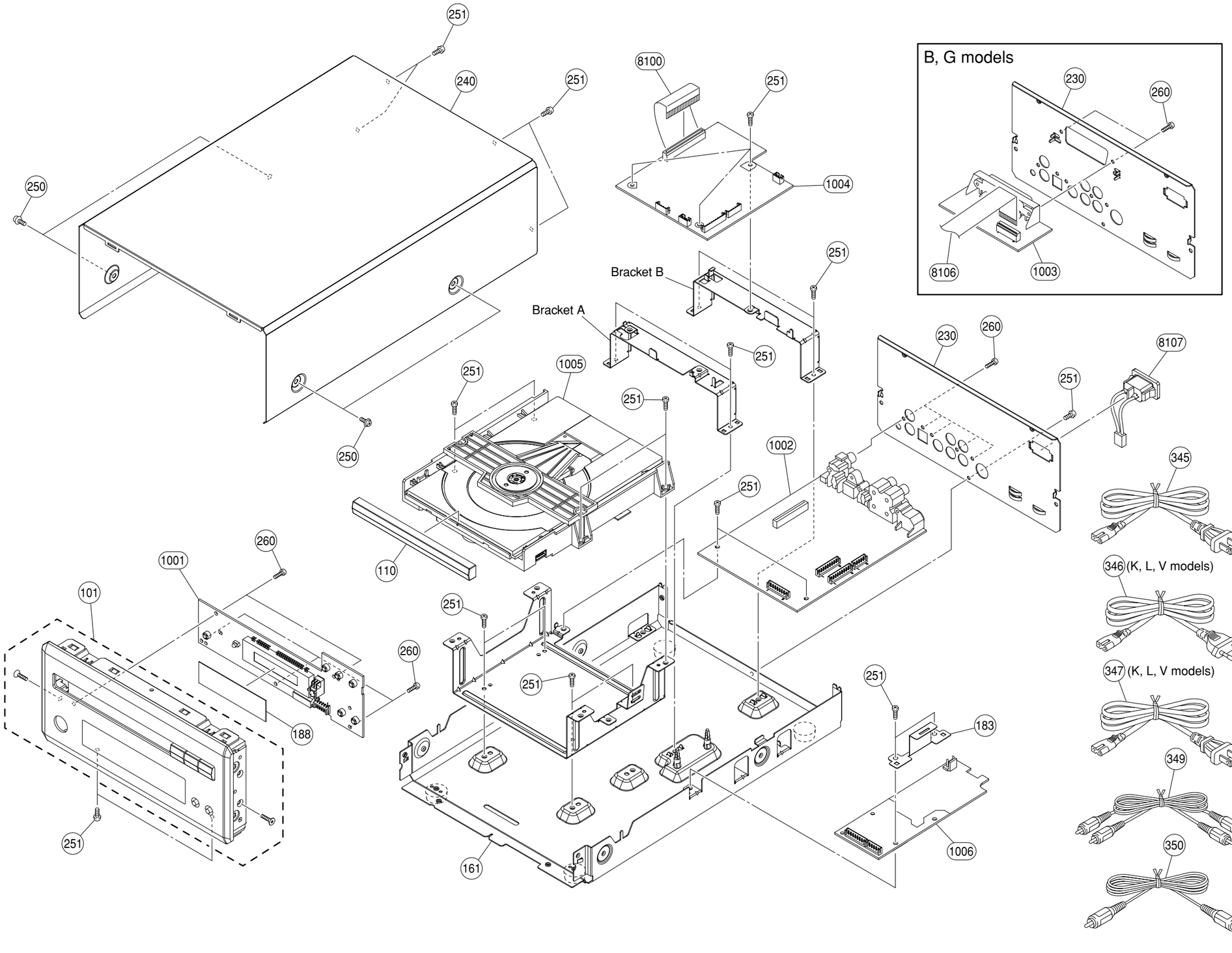
MEMO

MEMO

■ REPLACEMENT PARTS LIST



WARNING

- Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

	Ref. No.	Part No.	Description		Remarks	Markets
*	101	AAX79590	FRONT PANEL ASS'Y	GD	3141 079 39811	
*	101	AAX79570	FRONT PANEL ASS'Y	BL	3141 079 39791	
*	101	AAX79580	FRONT PANEL ASS'Y	SI	3141 079 39801	
*	110	AAX79530	TRAY COVER	GD	3139 244 11871	
*	110	AAX79550	TRAY COVER	BL	3139 244 12921	
*	110	AAX79540	TRAY COVER	SI	3139 244 11881	
*	161	AAX79560	FRAME ASS'Y		3141 079 39821	
*	183	AAX79490	CUT SHEET		3139 243 20621	
*	188	AAX79450	WINDOW SHEET (ORANGE)	GD	3139 243 20541	
*	188	AAX79460	WINDOW SHEET (BLUE)	BL, SI	3139 243 20551	
*	230	AAX79640	REAR PANEL		3139 241 60751	UC
*	230	AAX79621	REAR PANEL		3139 241 60732	T
*	230	AAX79610	REAR PANEL		3139 241 25061	KLV
*	230	AAX79630	REAR PANEL		3139 241 60741	A
*	230	AAX79600	REAR PANEL		3139 241 24761	B
*	230	AAX79600	REAR PANEL		3139 241 24761	G
*	240	AAX79500	TOP COVER	GD	3139 241 24681	
*	240	AAX79520	TOP COVER	BL	3139 241 25071	
*	240	AAX79510	TOP COVER	SI	3139 241 24691	
	250	AAX53440	PW HEAD TORX S-TIGHT SCREW	GD,SI 3x6-8 MFNI33	3104 120 40081	
	250	AAX55450	PW HEAD TORX S-TIGHT SCREW	BL 3x6-8 MFZN2B3	3139 110 40611	
	251	AAX23640	PAN HEAD TORX S-TIGHT SCREW	3x6 MFZN2B3	2511 077 00039	
	260	AAX53520	PAN HEAD TORX P-TIGHT SCREW	3x8 MFZN2B3	2511 076 50012	
*	1001	AAX79440	P.C.B. ASS'Y	FRONT	3139 248 89721	
*	1002	AAX79410	P.C.B. ASS'Y	AV	3139 248 89681	UCTKALV
*	1002	AAX79400	P.C.B. ASS'Y	AV	3139 248 89661	BG
*	1003	AAX79430	P.C.B. ASS'Y	SCART	3139 248 89671	BG
*	1004	AAX79420	P.C.B. ASS'Y	MONO DVM9.1	3139 248 50221	
	1005	AAX79060	DVD MECHANISM	WXD8829	3139 247 13341	
⚠	1006	AAX79050	POWER SUPPLY UNIT	SRV1919WW	3139 247 13351	UCTKALV
⚠	1006	AAX77890	POWER SUPPLY UNIT	SRV1797EK	3139 247 12432	BG
*	8100	AAX79470	FLEXIBLE FLAT CABLE	30P 120mm	3139 111 04121	
*	8106	AAX79480	FLEXIBLE FLAT CABLE	15P 120mm	3140 110 20881	
*	8107	AAX79930	CABLE ASS'Y	2P 140mm	3139 241 01731	UCTABG
*	8107	AAX80010	CABLE ASS'Y	2P 140mm	3139 241 03121	KLV
			ACCESSORY			
⚠	345	AAX56530	POWER CABLE	1.8m 1pc	2422 070 98134	UC
* ⚠	345	AAX79670	POWER CABLE	1.5m 1pc	2422 070 98257	T
* ⚠	345	AAX79940	POWER CABLE	1.5m 1pc	2422 070 00094	KLV
⚠	345	AAX56540	POWER CABLE	1.5m 1pc	2422 070 98248	A
* ⚠	345	AAX79650	POWER CABLE	1.5m 1pc	2422 070 98147	B
* ⚠	345	AAX79660	POWER CABLE	1.5m 1pc	2422 070 98151	G
* ⚠	346	AAX79660	POWER CABLE	1.5m 1pc	2422 070 98151	KLV
* ⚠	347	AAX79950	POWER CABLE	1.5m 1pc	2422 070 98242	KLV
	349	AAX21980	AUDIO PIN CABLE	RD/WH 1.5m 1pc	3103 308 92611	
	350	AAX22970	VIDEO PIN CABLE	YE 1.5m 1pc	3104 108 45432	

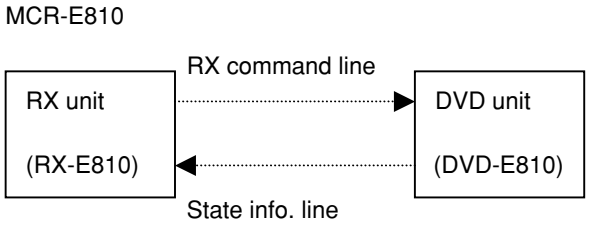
※ New Parts

■ SYSTEM CONTROL

1. External Bus

1.1. Physical format of external bus

It is composed of 2 bus lines.



1.2. Format of RX command

RX command is the request of RX to DVD unit.
Both are expressed by the remote control code of the NEC format. And the signal wave form is the demodulated signal of remote control IR signal.

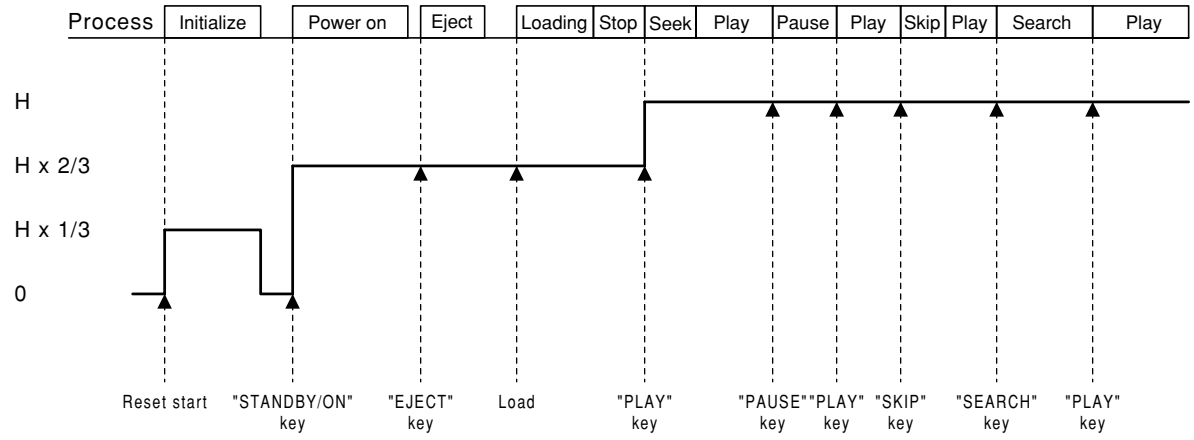
1.3. Format of state info.

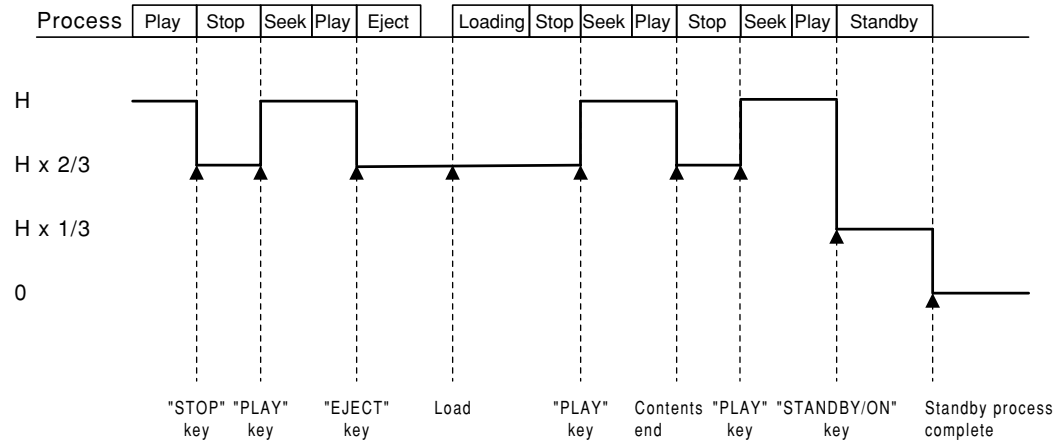
State info. is the state information of DVD and expressed by the DC voltage level.

Name	DC voltage level	Content
PORT_PLAY	H	The period between from playback operation to stop factor generation. Playback operation: “PLAY” key operation, disc tray hand push close Stop factor: “STOP”, “EJECT”, “STANDBY/ON” key operation Playback contents end Failsafe stop by abnormal detection
PORT_STOP	H x 2/3	Power on state other than PORT_PLAY state
PORT_PRE_STANDBY	H x 1/3	The period between from standby operation to standby process completion and from DVD reset start to initialize process completion
PORT_STANDBY	0	Standby state after standby process completion

H: Microprocessor Vcc level

Example:





Note: The details or some limitations regarding the change of player status need the extra discussion.

2. Command and Operation Key Code

The system command and the system remote control code described as follows are transmitted through RX command bus.

2.1 RX request command

Name	Code	Function
POWER_ON	7C-F6	Power on request
POWER_OFF	7C-F7	Standby request
PLAY	7C-82	Playback request
STOP	7C-85	playback stop request
DIMMER_ON	78-FE	Display dimmer(decrement of brightness) request
DIMMER_OFF	78-FF	Cancel display dimmer
VFD_OFF	78-FD	VFD turn off request

RX request command is not transmitted if DVD is already in the state that RX requests.

2.2 Operation key code

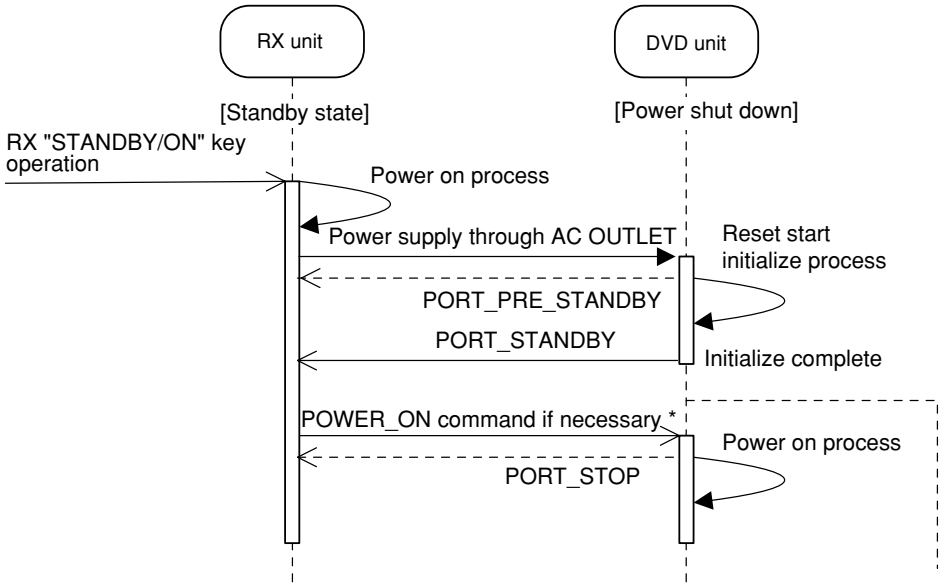
The DVD unit receives the remote control signal directly.

3. Command Communication for System Function

3.1 Power on

(1) Power on by RX “STANDBY/ON” key operation

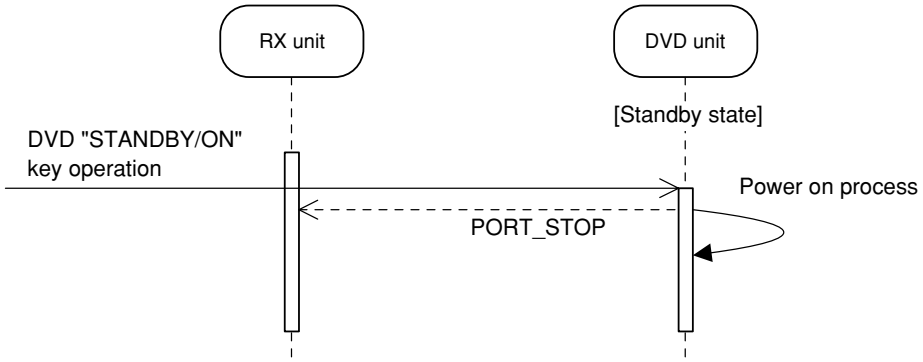
RX turns on the power by RX’s “STANDBY/ON” key and at the same time DVD also turns on the power if DVD state is power on at the last RX’s power on.



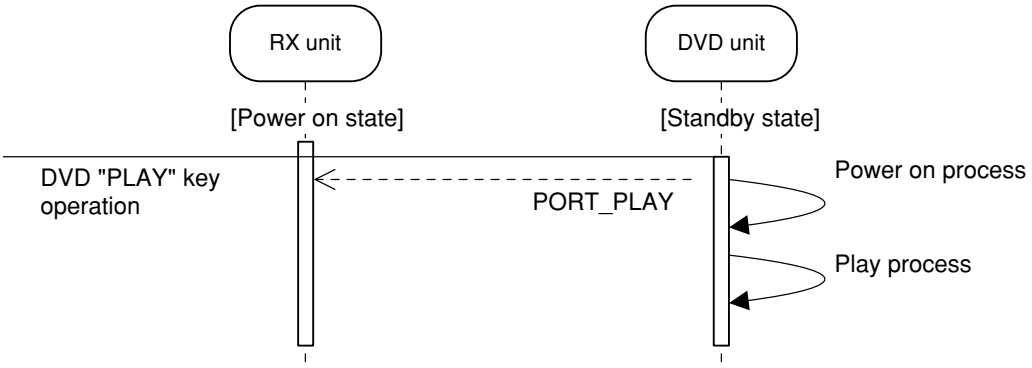
* RX transmits POWER_ON command if DVD state at the last RX' s power on is power on.

(2) Power on of individual unit by each “STANDBY/ON” key operation

In the system power on, the each unit can be changed into standby and then into power on again by the “STANDBY/ON” key operation of the unit.
When the power supply of the unit is individually supplied, only the unit can turn on the power by operating “STANDBY/ON” key of an individual unit even in system standby.



DVD unit can turn on the power by also other key, “PLAY” or “OPEN/CLOSE (EJECT)”.
In this case, it carries out a peculiar function to the key after processing power on. However, only the power on processing is done by “PLAY” key without media.
When the system is in power on state and DVD unit is in standby state, only DVD unit is changed into power on state by this operation.

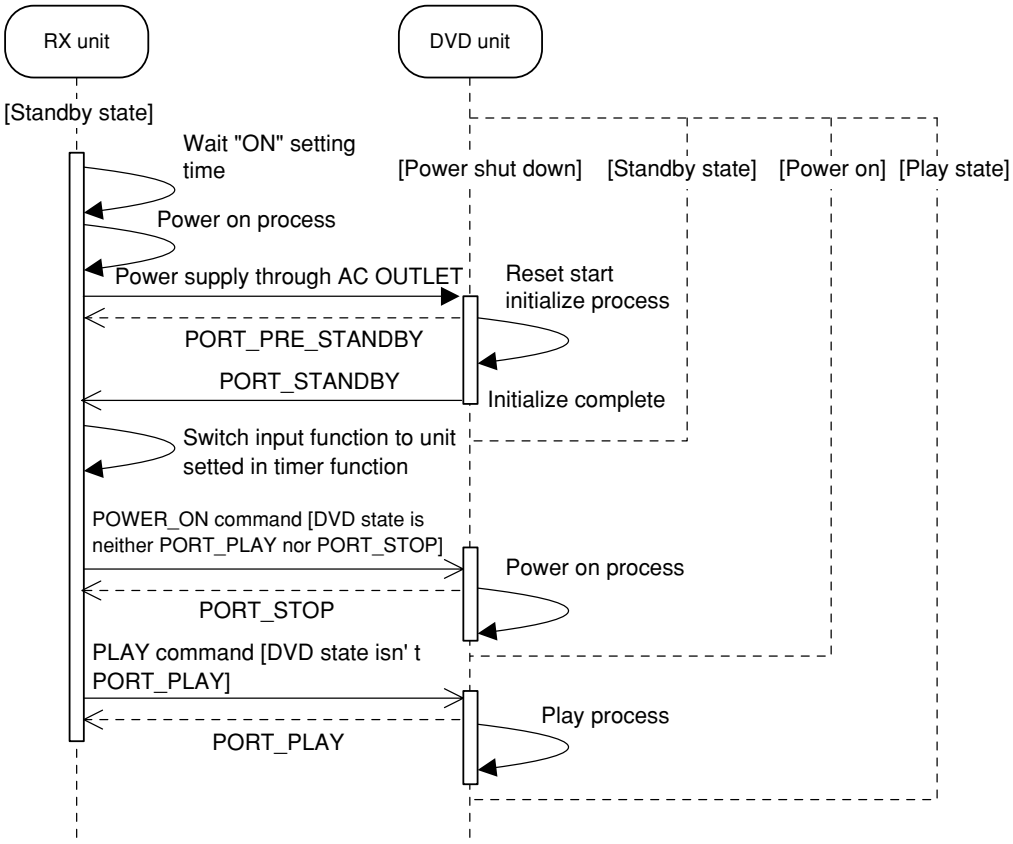


3.2 Timer function

The unit setted in this RX timer function is playbacked at the setting time as the ON-TIME.
It functions even when at setted time the system is already in power on state or the unit is already playbacked.

(1) Timer play

The state is not changed if the setted unit is already in the state of playback.

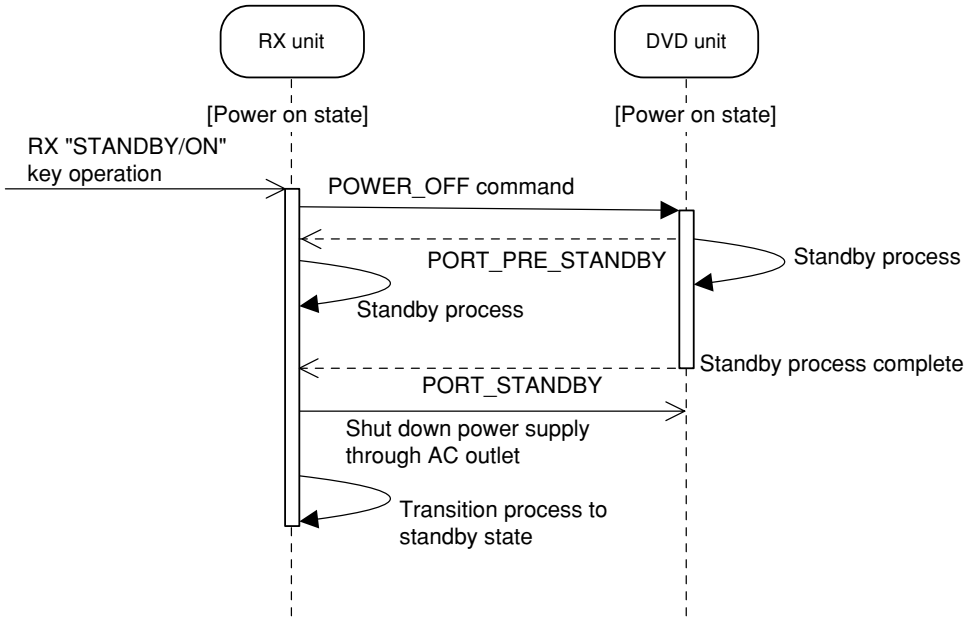


After sending POWER_ON command, if DVD unit has Auto-play function after power-on, RX will not send PLAY command.

3.3 Standby (power off)

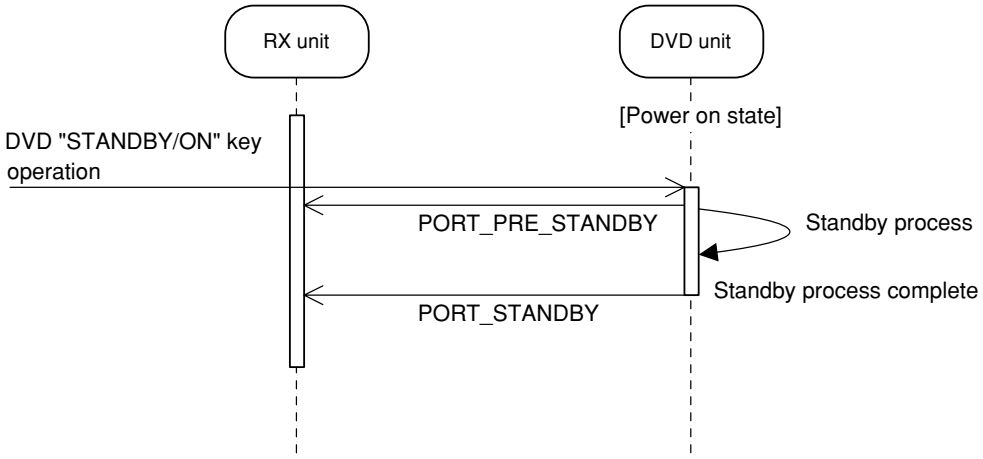
(1) System standby

The power supply through AC outlet of RX is shut down in system standby (power off).
The microcomputer of the unit connected with AC outlet of RX cannot work after system power off.
When there is processing that should be finished before the system power off, the system is turned power off after such processing completion.



(2) Unit standby (power off)

Each unit can be individually standby (power off) with an individual “STANDBY/ON” key of each unit.

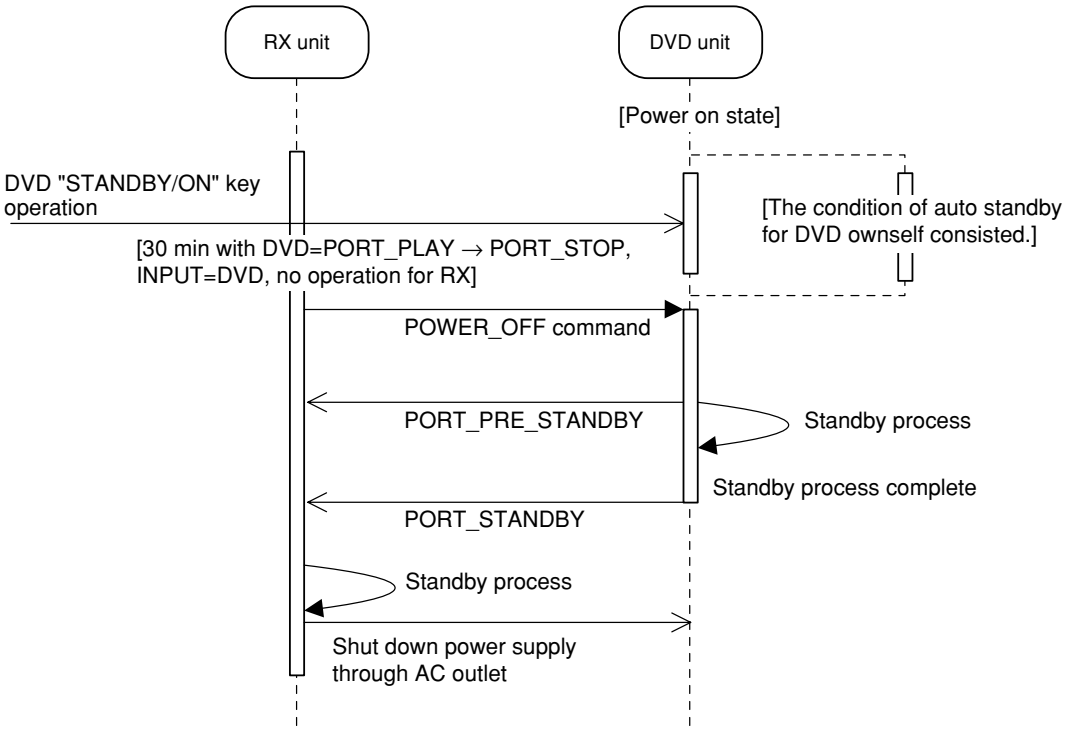


(3) Auto standby (power off)

When 30 minutes pass with the following conditions consisted, the system turns off the power (standby) automatically.

a. The unit connected with an external bus is in the standby state.
b. RX input function is DVD.
c. RX is not operated

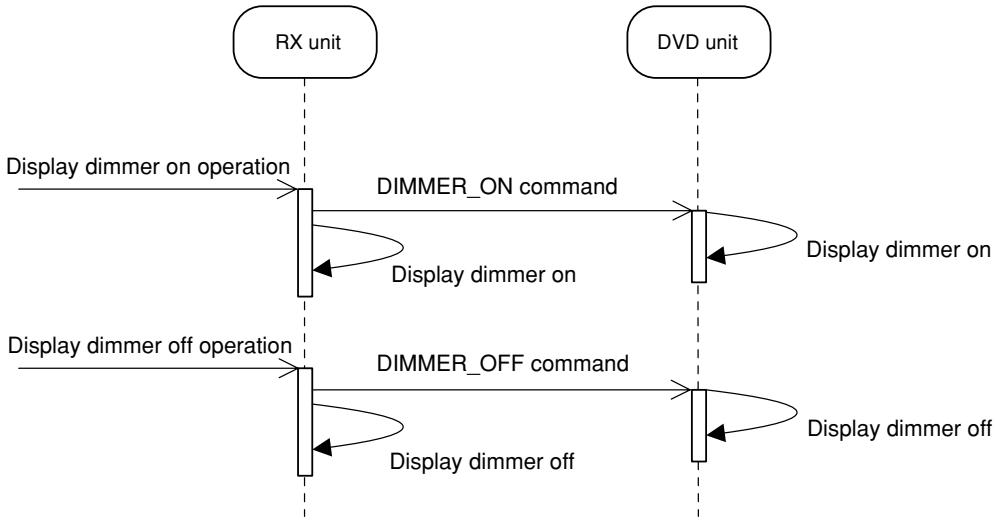
DVD might turn off the power by own auto standby function.



3.4 Display control

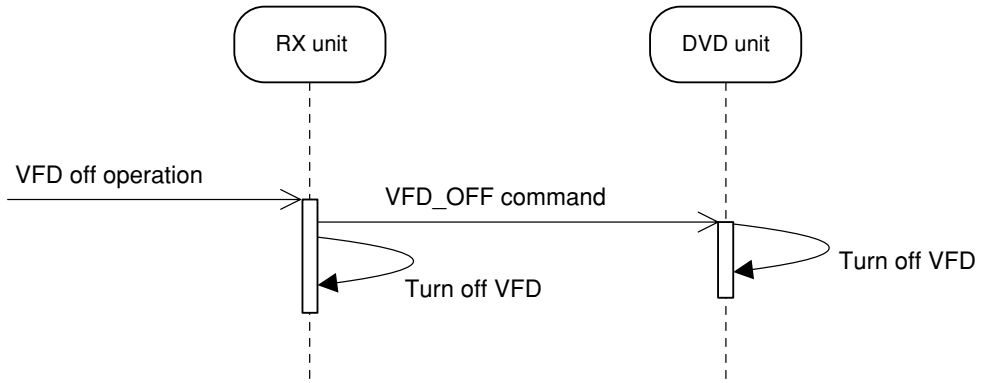
(1) Display dimmer function

This is the function to change the brightness of DVD's display by operating RX.



(2) Turn off VFD

This is the function to turn off VFD.



Exit: RX sends DIMMER_ON or DIMMER_OFF command, and then DVD unit turn on VFD with the appropriate dimmer value.

DVD-E810

YAMAHA